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**FOOD CHOICES AND FEEDING PATTERNS FOR WOMEN AND
INFANTS IN RURAL NORTHERN THAILAND:
AN ETHNOGRAPHIC STUDY**

A thesis presented in fulfilment of the requirements
for the degree of Doctor of Philosophy
in Nursing
at Massey University

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ABSTRACT

The question for this study arose from the situation that malnutrition remains one of the major health problems among Thai children, particularly the under-fives. The purpose of it was to develop better understanding as to what sustains beliefs and practices associated with infant nutrition. An ethnographic approach was chosen as the research method. One rural village in northern Thailand was selected as the site of fieldwork for a period of 10 months. Data were collected through participant observation, interview, and ethnographic records. Key informants were 18 pregnant women and mothers of the under-tuos. General informants were elderly kinswomen, fathers of the under-tuos, volunteer health workers and community health workers.

From the data it can be argued that what each woman does with regard to her own nutrition during pregnancy and following childbirth and the feeding pattern that she adopts for her infant are the outcomes of interplay between a complex network of cultural, social, personal and situational factors. These act and interact as *pushes* and *pulls* in a woman's decision making, frequently conflicting. Four main sources of pushes and pulls are: traditional beliefs; personal factors including attitudes, feelings, needs and experiences; sociocultural situations and changes; and government health services. If nursing interventions aimed at promoting a well nourished woman and a well nourished child are to be effective, nurses must be aware of these multiple influences.

The conceptual account generated from the findings of this study has potential value for nursing practice, education and research. It identifies the aspects amenable to change by nurses and other health workers in their work to counter malnutrition situation, and so to improve the health of mothers and children.

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PART ONE

BACKGROUND TO THE STUDY

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CHAPTERS ONE, TWO, THREE AND FOUR

CHAPTER ONE

INTRODUCTION

The research reported in this thesis is focused on beliefs and practices pertaining to infant nutrition in rural northern Thailand. It is argued that, although infant malnutrition is largely preventable, nurses and other health professionals are hampered in their efforts to change the situation because of inadequate understanding of the sociocultural factors which support the existing patterns.

BACKGROUND TO THE STUDY

The death of children under 5 years of age accounts for one in every three deaths in the world (UNICEF, 1988). In the developing world, more than a quarter of a million children die weekly from frequent infection and prolonged undernutrition. According to UNICEF, major causes of under or malnutrition in infants and children are: the high fertility rate of women; the poor nutritional status of mothers resulting in low birth-weight infants; artificial feeding rather than breastfeeding; the cessation of breastfeeding too soon or too suddenly; and insufficient energy and nutrient intake due to frequent feeding of bulky staples.

Miller and Keane (1972) define malnutrition as poor nourishment resulting from improper diet or from defective metabolism that prevents the body from using its food properly. Walton, Beeson and Scott (1985) agree with this definition, saying that malnutrition is any disorder of nutrition, applied specially to conditions associated with inadequate intake or defective utilisation of food. Critchley (1978) states that malnutrition is faulty nutrition due to imperfect or incomplete assimilation, faulty feeding or starvation, disease, or any other cause. Undernutrition is defined by Dorian (1987) as a condition of inadequate or greatly deficient nutrition either due to a lack of food or to a failure to assimilate the food elements which are normally utilised by the organism. In this study the term "malnutrition" and "undernutrition" are used synonymously.

It is well recognised that malnutrition affects both physical and mental development. The most evident manifestation of malnutrition during the first year of life is physical

growth retardation (Guzman, 1968; Monckeberg, 1977). Recently it has been shown that the central nervous system is affected also and this gives rise to low intellectual capacity and behavioural abnormalities (Monckeberg, Tisler, Toro, Gattas & Vega, 1972). Children with severe malnutrition also show decreased adaptive capacity and lowered defense against environmental stressors (Cheek, Holt & Mellits, 1972; Monckeberg, 1977), which lead to infection and increased mortality.

Thailand is a developing country in South East Asia and is an exporter of agricultural products. However, malnutrition has been recognised as one of the major health problems affecting the quality of life of the general population, and in particular, of vulnerable groups such as pregnant and lactating women, infants, preschool children and school children. Seven major nutritional problems have been identified. These are protein energy malnutrition (PEM), iron deficiency anemia, blindness due to vitamin A deficiency, beri-beri due to vitamin B1 deficiency, iodine deficiency goitre, angular stomatitis due to vitamin B2 deficiency and bladder stone disease due to phosphorus deficiency. Among the listed problems PEM in preschool children has been the most critical one, particularly in the northern and the northeastern regions. According to the report of the nutrition surveillance programme conducted by the Ministry of Public Health in 1982, approximately half of the eight million preschoolers were suffering from PEM.

The occurrence of PEM in Thailand appears to be age dependent. In the slum areas of the big cities, PEM commonly occurs right after birth and is associated with bottle-feeding under improper and unhygienic conditions. In the rural areas PEM does not become apparent so quickly, as breastfeeding is still common and therefore protects the child during the most vulnerable period. PEM increases as weaning age is approached (Tontisirin & Vinichagoon, 1984).

In the pediatric units of most hospitals both in Bangkok, the capital, and in the provinces, malnourished children can generally be found. Infectious illnesses such as diarrhoea, pneumonia and measles are the leading causes of death among these children.

As a pediatric nurse, closely involved in caring for sick children in the pediatric units as well as conducting health education at the child health clinic of the hospital in Chiang Mai, northern Thailand, it has been the researcher's experience that many mothers of young children rarely take the health professional's advice regarding child nutrition. For instance, despite being advised not to feed solid food to infants too

early (ie., in the first 3 months), most of the infants attending the clinics have already been fed with glutinous rice mixed with banana, sometimes when they are as young as 1 week. When asked about the reasons, some mothers state that the babies cry for rice and they always sleep well after being fed rice. Hence, the mothers have time to do other things. Moreover, many mothers follow the advice of their elderly relatives regarding infant feeding practices. Records show that these babies gain weight steadily until they are about 6 months of age. Once weaning begins, the growth rate of the babies declines.

Even though the clinical syndrome of PEM occurs between the ages of 1-3 years, the process of malnutrition begins around the age of 6 months (Ebrahim, 1983). Studies in several countries (Rutishauser, 1975; Scholl, Johnston, Cravioro, DeLicardie & Lurie, 1979; Guthrie, 1988; Prentice & Prentice, 1988), including a major study on *Contemporary Patterns of Breastfeeding* sponsored by the World Health Organization (1981), indicate that in most countries infants who are fully breastfed do well up to the age of 4-6 months. Thereafter, growth begins to falter.

The first year is the most critical period of a child's life. Not only is physical growth occurring at the most rapid rate but psychomotor development and acculturation are also taking place rapidly (Hofvander, 1983). - Infant growth depends to a large extent on an adequate nutritional intake which is determined by the infant feeding pattern. Therefore, the pattern of infant feeding is a major determinant of child growth and development.

Patterns of infant feeding in any community have an underlying basis in cultural beliefs concerning, among other things, the nature of children, the nature of food, and how, when and what kind of food children should eat. Infant feeding practices are also influenced by the physical environment as well as socioeconomic factors, and the past experience of the family. Therefore, the first step toward understanding malnutrition and infant health in a particular community is a thorough knowledge of the beliefs and practices associated with infant nutrition in that community (Dettwyler, 1987).

Like most developing countries, Thailand has formulated policies and implemented programmes in maternal and child nutrition. Numerous studies have been conducted with the aim of alleviating PEM in infants and preschoolers (Aranyakanonda, 1977; Ministry of Public Health, 1979; Moaleekulpairoj, 1980; Tontisirin, Moaleekulpairoj, Dhanamita & Valayasevi, 1981). Other studies have focused on improving maternal

nutrition (Chandrapanond, Rajatasilpin & Tansuphasiri, 1972; Thanungkul & Amatayakul, 1975; Chaiyaratana, 1979; Somboon, 1980; Tontisirin, Booranasubkajorn, Hongsumarn & Tiewtong, 1986). The Research Institutes of Nutrition, located in Mahidol University, Bangkok and Chiang Mai University, Chiang Mai, have been established to examine this problem and related issues. The research regarding these concerns has focused almost solely on the biomedical aspects of malnutrition. Yet it is likely that cultural factors have a greater impact on food selection and consumption than does nutrient content or chemical and biological properties of food. This is true of food taboos during pregnancy and lactation as well as infant feeding practices. However, few researchers have focused on the sociocultural factors underlying the problem. This imbalance needs to be addressed and rectified. In this way the problem of malnutrition can be combated from an understanding of both the biomedical aspects and the sociocultural factors.

Detailed ethnographic studies are necessary to achieve a better understanding of infant nutrition. An ethnographic approach documents not only the details of what people say they ought to do and what they say they do, but also observation of what they actually do in their everyday life. Therefore, ethnographic fieldwork can enrich our understanding of infant nutrition. This knowledge has the potential to improve the nutritional and health status of infants. In an applied profession such as nursing, an improved understanding of client life style, health beliefs and behaviours has the potential to enhance nursing judgment and decision making (Leininger, 1978; Robertson & Boyle, 1984). Moreover, the provision of care within the appropriate cultural context leads to honest and flexible approaches to health education and nursing intervention based on mutual respect (Morse, 1988). Indeed, ethnographic research can yield insights useful to the nursing profession in addressing a wide range of problems in not only the health care system but also in society (Germain, 1986).

PURPOSE OF THE STUDY AND RESEARCH QUESTIONS

The purpose of this study was to develop understanding about the beliefs and practices associated with infant nutrition in a selected village in Northern Thailand. It was carried out as an ethnographic study. Such description allows identification of aspects amenable to improvement by community health nurses and provides the basis for developing a conceptual framework to guide nursing intervention.

The research aim, therefore, was to explore the question "What are the present beliefs and practices concerning infant nutrition in a selected village in rural Northern Thailand?"

Within the wider question, the following specific aspects were addressed:

Perceptions about food for women during pregnancy and lactation;

Perceptions about breastfeeding, artificial feeding, and weaning practices;

Factors which influence these perceptions; and

How nurses were seen as contributing, actually and potentially, to maintaining or improving the nutritional status of infants.

STRUCTURE OF THE THESIS

The thesis is organised in three sections. **Part One** (Chapters 1-4) provides a general introduction, background material and research strategies for approaching the study. In **Chapter One** the background of the study has been outlined, and is followed by a statement of the purpose of the study and the research questions. **Chapter Two** reviews relevant literature related to infant feeding practices which guided the formulation of the problem to be studied. **Chapter Three** contains a discussion of the ethnographic method as chosen for this research, showing it to be an important means of developing nursing knowledge and generating knowledge which can improve nursing practice. **Chapter Four** outlines the strategies for data collection and application of the method in the field.

Part Two of the thesis (Chapters 5-8) contains the description of the study setting and findings. In **Chapters Five and Six** the sociocultural context of the country and the village in which the study took place are described. In **Chapters Seven and Eight** findings from participant-observation and in-depth interviews are discussed along with other data related to the nutrition of women and infants. These two chapters also include the experiences of particular women which illustrate how sociocultural factors can affect a child's nutritional status.

Part Three (Chapters 9-10) concludes the thesis. In **Chapter Nine** the researcher's integration and interpretation of the findings, and the conceptual account are presented. The limitations of the study are discussed in the final chapter, **Chapter Ten**, along with the implications of the study for nursing practice and education, and recommendations for future research.

CHAPTER TWO

REVIEW OF THE RELEVANT LITERATURE

Health is essential to the satisfaction of human needs and to enable a high quality of life. The first year of life is crucial in laying a foundation for good health since growth, development, and maturation of infants are greater than during any other post-natal period. The birth weight of the infant triples by 1 year of age, thus the nutrient requirements are critical at this time (Hofvander, 1983). Infant nutrition, therefore, is of vital importance to infant health. In addition, the nutritional status of infants depends to a great extent on the nutritional status of their mothers as good maternal nutrition promotes the optimum growth of the foetus and provides for adequate lactation (Shah, 1981).

This literature review will discuss: food for women during pregnancy, the postpartum and lactation periods; breastfeeding and artificial feeding practices; and weaning practices. Emphasis will be placed on the sociocultural contexts of food behaviours of women and infant feeding across cultures. The chapter concludes with a discussion of specific studies concerning maternal and child nutrition in Thailand.

FOOD FOR WOMEN DURING PREGNANCY, POSTPARTUM AND LACTATION PERIODS

There is evidence that pregnant women change their food-related behaviours according to beliefs, customs and taboos. These food practices vary considerably between cultures (Snow & Johnson, 1978; Darwish, Amine & Abdella, 1982; Gopaldas, Gupta & Saxema, 1983; Dewey, Storde & Fitch, 1984; Rao, 1985; Counts, 1985; Tudsri, 1987; Guthrie, 1988). Some examples are given below.

In Tamilnad, South India, fruit and grain are avoided because it is feared that they will cause abortion by heating the body or by inducing uterine haemorrhage. High protein foods may be avoided because they are thought to cause exaggerated growth of the baby which would result in a difficult delivery (Eichinger Ferro-Luzzi, 1973b). Vietnamese pregnant women avoid eating "cold" food such as mung beans, spinach, green papaya and melon in the first trimester for fear of precipitating a miscarriage or causing a haemorrhage at the time of delivery (Manderson & Mathews, 1981).

The hot-cold classification system common to many parts of Asia and Latin America, is assumed to derive from the classical humoral theories of Hippocrates and Galen (Manderson, 1981). According to these beliefs, the body is composed of four humours - blood, phlegm, black and yellow bile (Snow & Johnson, 1978). Each humour is associated with properties of heat and cold, moisture and dryness, and good health consists of keeping these bodily components in balance, as an excess of any one of them would cause disease. According to Chinese traditional medicine, the body has two vital life forces of opposing qualities, *yin* (cold) and *yang* (hot), and is subjected to the laws of five elements - earth, fire, water, wood, and metal (Manderson, 1981). Thus, there are some marked similarities between classical humoral theory and Chinese medicine, although the extent of cross cultural borrowing remains in question. The classification of "hot" and "cold" food relates not to actual temperature of the food nor usually to its spiciness or its raw or cooked state, but to the reputed effect of the food on the body. A "hot" food is said to heat the body, whereas "cold" food cools the body. Overindulgence in a particular food may cause an imbalance of hot or cold and lead to illness. Treatment involves adjustment in the diet to redress the imbalance.

As well, women during the postpartum and lactation period avoid certain foods, particularly during the early postpartum period (Wheeler & Tan, 1983; Dewey, Strode & Fitch, 1984; Eichinger Ferro-Luzzi, 1984; Rao, 1985; Counts, 1985; Counsilman, Chua & Viegas, 1986; Tudsri, 1987). The avoiding of food during this period is for reasons which can be divided into two principal areas.

The first principle holds that whatever the mother eats will be transmitted to the baby through her breast milk which could cause all the common symptoms and diseases to which a baby may be subject (Manderson & Mathews, 1981; Gopaldas, Gupta & Saxena, 1983; Eichinger Ferro-Luzzi, 1984; Eaton-Evans & Dugdale, 1986; Gabriel, Gabriel & Lawrence, 1986). For this reason, abstention from certain foods may last for the whole lactation period.

The second principle concerns the belief that tabooed foods would affect the mother's health. For instance, the Malays believe that the act of parturition, which depletes a mother's body of the hot element, blood, puts her into a cold state for a minimal time of 40 days postpartum. Thus during this time her body balance must be restored by the addition of heat internally and externally. A new mother drinks "heating" root medicines, eats food considered intrinsically "hot" and avoids those considered "cold", sleeps on a platform above a small fire, and applies a heated stone wrapped in cloth to her abdomen. According to Malay food ideology, "cold" foods may be harmful to a new mother as such foods would make the postpartum women more susceptible to the

entry of "air" into the body tissues. Therefore they must not eat foods defined as "cold", such as most vegetables and fruits (Laderman, 1984; Wilson, 1984). Tudsri (1987) also found that Kampuchean women in New Zealand believed that "hot" food such as ginger and pepper would help the balance of the body after delivery, and that "cold" foods such as fruits and vegetables should not be eaten during this period.

BREASTFEEDING AND ARTIFICIAL FEEDING PRACTICES

The importance of breastfeeding for a child's health is well established. Recommendations on infant feeding, based on current knowledge, call for exclusive breastfeeding whenever possible for the first 4-6 months of life, followed by the introduction of supplements and the continuation of breastfeeding for a year or longer (Joint WHO/UNICEF, 1979). Breastfeeding is defined as "exclusive" when an infant receives only breast milk, and no supplement which has a significant caloric value (Dimond & Ashworth, 1987). The nutritional, immunological, behavioral and economic benefits of breastfeeding and the adverse effects of early weaning and bottle-feeding in developing countries are well documented (Jelliffe & Jelliffe, 1971, 1978; Ebrahim, 1978; Richard, 1982; Garza, 1984; Lawrence, 1985).

Research in developing countries indicates that breastfeeding assumes greatest importance among poor families. The required levels of literacy, income, and access to clean water and sanitary conditions may not be present to feed an infant artificially without introducing serious risks to the infant's health and survival (Jelliffe & Jelliffe, 1978). However, within the past four decades, there has been a worldwide decline in breastfeeding (Okeahialam, 1986), and during the past decade a number of cross-cultural surveys on infant feeding practices have been published. Much of this literature has focused on the "infant formula controversy", the trend in the urban centres of many third world countries away from breastfeeding and toward the use of infant-feeding bottles and/or commercial formula, with detrimental effects on the health of children (Taylor, 1977; Jelliffe & Jelliffe, 1978; Kent, 1981; WHO, 1981; Morse, 1982; Trlin & Perry, 1982; Notzon, 1984; Desantis, 1986; Kocturk & Zetterstrom, 1986; Koo, Wong & Ho, 1986; Okeahialam, 1986; Dimond & Ashworth, 1987). However, several studies reveal that the practice of breastfeeding is still universal but the number of months of breastfeeding has declined (Di Domenico & Asuni, 1979; Misra, 1979; Raphael & Davis, 1985). Gunn (1984) also indicated that in Auckland, New Zealand, despite the high proportion of mothers breastfeeding on discharge from hospital (152 out of 186), there was a rapid fall-off in breastfeeding following discharge.

Obviously infant feeding practices depend on many biological, sociocultural and economic factors. The WHO collaborative study of infant feeding patterns in 1981 indicated that infant feeding should be viewed as a whole, and should not concentrate exclusively on the status of breastfeeding. In addition, Morse and Harrison (1987) state that breastfeeding does not occur in isolation, either apart from the family context or separate from the community at large. Indeed, the decision to breastfeed or bottle-feed involves more than simple demographic factors. The factors which determine whether breastfeeding is successful are many and complex.

Numerous studies have attempted to delineate the differing attitudes and beliefs of bottle and breastfeeding mothers toward these two feeding choices. However, a recent review by Beasley (1991) indicates that the research and literature focusing on various aspects of human lactation and infant feeding has, to date, been dominated by a biomedical orientation. Biomedical orientation is the term used to describe the information which relates to biological, physical and medical scientific perspectives. Only recently have detailed ethnographic descriptions of the sociocultural context of breastfeeding appeared. For example, there is evidence that in some societies breastfeeding may be delayed until the third or fourth day after delivery due to the belief that the first milk, colostrum, is unhealthy or even harmful (Huffman, Chowdhury, Chakraborty & Simpson, 1980; Dev, 1982; Fernandez & Guthrie, 1984; Jenkins, Orr-Ewing & Heywood, 1984; Morse, 1984; Tietjen, 1985; Conton, 1985; Counts, 1985; Lepowsky, 1985). Colostrum is highly nutritious and the presence of immunological factors in colostrum is well documented (Jelliffe & Jelliffe, 1978; Fernandez & Popkin, 1984; Lawrence, 1985). Unfortunately, many mothers do not know of these advantages, thus they expel and discard it. To deal with this situation, Morse, Jehle and Gamble (1990) suggest that caregivers should determine the mother's belief and cultural practices concerning colostrum. They go on to say that if the beliefs are strong, a mother should not be forced to feed her infant colostrum because it may cause the mother distress, which in turn may affect the letdown reflex and the successful establishment of breastfeeding.

Winikoff and Baer (1980) examined the studies concerning breastfeeding practices in several countries including England, Sweden, the Philippines, Guatemala, Brazil and the United States. They state that breastfeeding women not only believe that there are health and psychological benefits for the baby, but also that breastfeeding is the "natural thing" to do. Gillam (1983) indicated that in Papua New Guinea breast milk is the staple food for the Lujure infant until it is weaned at approximately 20-24 months of age. The Lujure mother is always there "on call" for her infant who is the prime concern of the mother. Breastfeeding may be preferred for a variety of reasons.

For example, Morse (1984) found that Fijian mothers were reluctant to give the infant cow's milk as this would make the baby "stubborn like a cow". The Amele of Lowland Papua New Guinea believe that breast milk changes from a watery weak fluid to a stronger one as lactation proceeds, in accordance with the development of the child. Thus, breastfeeding may last until well over 4 years old if the child is the last born (Jenkins et al., 1984).

Weinstein (1980) states that ignorance of the benefits of breastfeeding had a significant influence on the choice to bottle-feed among the American mothers in Arizona. Brogan and Fox (1984) found that in Nebraska, mothers who attended prenatal classes were more likely to breastfeed and to introduce solid food at a later age than those who had not participated in such classes. Bahrain mothers have more personal reasons for preferring bottle-feeding. They believe that breastfeeding may affect their figures and cause sagging of the breasts (Musaiger, 1983). Cherian (1981) found that 164 out of 250 women in Nigeria had used milk formulae because they believed that milk formulae must be more nutritious than breast milk and they thereby made considerable sacrifices to purchase the milk for their infants. The reasons given by these mothers for feeding milk formulae included: following others, making the baby fat, friends' advice, insufficient breast milk, mixing with cereal and mothers wanting to work. One of the most insidious reasons for using milk formulae in Nigeria was the father's purchase of milk. In his concern for weight gain in his child or to lessen the child's cries, the father may bring about a major change in feeding his offspring (Cherian, 1981). Gabriel et al. (1986) found that 12% of 313 parturient women in New York (Black, White, Hispanic and other) believe some of their personal practices, such as smoking or eating foods that lack nutritional value, are barriers to breastfeeding.

Other studies have found that beliefs about the quality of breast milk may also influence breastfeeding practices. For example, Guthrie (1988) found that many of the 200 Filipino mothers studied believed that their milk might be causing illness in their baby, so that they often terminated breastfeeding abruptly when the child developed a bout of diarrhoea. Some mothers in the same study tasted their breast milk frequently to judge its quality. If they found it, in their opinion, to be "thin and scanty" they often decided it was no longer suitable for the child.

There are cultures which value breastfeeding highly. They include Mali, in West Africa, where breast milk is highly valued as the ideal food for producing a strong and healthy infant and is also viewed as the essential biological link between the woman and her children. Newborn infants are put to the breast immediately, receiving the full benefit of colostrum. Infants are fed on demand, whenever they cry, from birth until

they are weaned. They sleep next to their mothers and are nursed on demand at night as well. Nursing for comfort is considered a logical and natural function of breastfeeding (Dettwyler, 1986). According to Dettwyler (1988), breastfeeding is more than nutrition. It is also seen as a special process that creates bonds of kinship between women and children and among children. Some mothers, however, believe that a fat baby results from a mother with "good" milk, and likewise, a thin baby may be the result of the mother having "bad" milk. Hence, if a woman decides she has bad milk, she may seek medicine to make it better, wean the baby, or add formula or solids to the baby's diet (Dettwyler, 1987).

According to the definition of exclusive breastfeeding, breastfed infants who are given water or fruit juice will be described as exclusively breastfed, because water and fruit juice have no significant caloric value. Nevertheless, mixed feeding or early supplementation of breastfed infants with milk and/or other foods is a common practice in many countries (Raphael & Davis, 1985; Latham, Elliott, Winikoff, Kekovole & Van Esterik, 1986; Dimond & Ashworth, 1987). For example, in Kenya, there is a high prevalence and a long duration of breastfeeding. However, breast milk substitutes in substantial amounts are fed to the majority of infants in the first 4 months of life and the evidence suggests that Kenyan women consider breastfeeding an interactive process, more than simply a source of nourishment (Latham et al., 1986).

Various reasons for mixed feeding or even terminating breastfeeding have been reported in the literature. The most frequently reported reasons have included: insufficient milk; poor sucking; lack of support; return to work; and pregnancy (Dawson, Richardson, Carpenter, Blair & McKean, 1979; Di Domenico & Asuni, 1979; Goodine & Fried, 1984; Gussler & Briesemeister, 1980; WHO, 1981; Reiff & Essock-Vitale, 1985; Scrimshaw, Engle, Arnold & Haynes, 1987; Morse & Bottorff, 1989; Morse, Bottorff & Boman, 1989).

Cole (1979) also reported that many different factors have been implicated in the trend away from breastfeeding. Among these are: lack of support available to a new mother; working away from home; fear that breastfeeding may interfere with the resumption of sexual activity; fear that breastfeeding will alter breast shape; fear of exposing the breast; lack of encouragement from health professionals; free distribution of milk samples and advertisements; and bottle-feeding being widely publicised as the more modern method of infant feeding.

The effects of the social support network on the decision to breastfeed as well as the duration of breastfeeding have also been the focus of several investigations. In cross-cultural studies of breastfeeding Raphael (1976,1981) described the importance of support from other women. She indicated that in many cultures, *doulas* (helpers) were assigned to care for new mothers to provide support over time and in many rural societies new mothers traditionally receive support from family and community in breastfeeding their infants. White (1978) studied infant feeding in London, England. She stated that if more help and support were given in the first 6 weeks, the proportion of mothers continuing to breastfeed would increase.

Smith (1976) and Dawson et al. (1979) indicate that in New Zealand, a significant proportion of mothers sought advice from the La Leche League, which provided continuing group support for breastfeeders and Hood, Faed, Silva and Buckfield (1978) also note that the New Zealand mothers who had contact with the La Leche League breastfed longer than those who did not. Similarly, Bryant (1982), in a study of 76 families in Florida, stated that kin, friend and neighbour networks of the Cuban, Puerto Rican and Anglo families have a significant impact on decisions regarding breast and bottle-feeding and the time to introduce solid foods to the baby's diet.

Baranowski et al. (1983) studied social support, social influence, ethnicity and breastfeeding decisions among 358 mothers delivering infants at a university medical centre hospital in Texas. They reported that among Black-Americans, support from a close friend was most important for initiating breastfeeding, whereas support from the mother's mother was important among Mexican-Americans, and, for Anglo-Americans, support from the male partner was the most important. Ekwo, Dusdieker and Booth (1983) also found increased rates of breastfeeding among women with support from female friends.

Kaufman and Hall (1989) measured mothers' perceptions regarding the influences of social networks on the choice and duration of breastfeeding by using the Influence of Specific Referents (ISR) scale. This Canadian study revealed that among the 88 mothers of preterm infants who initiated breastfeeding, the number of supports reported was the most influential factor on the duration of lactation.

By contrast, women in areas where the support structure is weak often perceive that they do not have enough milk. Thus they introduce breast milk supplements to babies and sometimes weaning occurs. In New Zealand, the Infant Nutrition Subcommittee of the Paediatric Society (1977) stated that many women failed to breastfeed through inadequate preparation and assistance. In St. Kitts, West Indies, it was found that

most Kittitian women gave their babies both the breast and bottle from the infant's birth. The most commonly stated reason for giving the babies the bottle was that the mothers do not have enough breast milk to satisfy the babies (Gussler 1979). However, research has also shown that the women's relationships with neighbours, friends and even relatives are often strained. Many of them express a great deal of concern about gossip. Sharing, cooperation, and support between villagers are restrained because of the fear that friends and neighbours who know too much about one's affairs will use that information in vicious verbal attack.

Morse and Harrison (1987) studied social coercion for weaning in Canada. The study revealed that breastfeeding mothers reported in the immediate postpartum period that everyone was supportive of breastfeeding. However, when the infants were older than 6 months, mothers who continued to nurse reported that they were advised by friends, parents or parents-in-law, colleagues and even their husbands to quit breastfeeding. The authors, in conclusion, suggest that if a lack of breastfeeding is a problem, then it is a general problem of all citizens.

Apple (1987) studied the social history of infant feeding in the United States from 1890 to 1950. She indicates that the rise of artificial feeding resulted both from a new theoretical understanding of diet and nutrition and from changes in medical practice and in women's lives. Moreover, she states that the commercialization and medicalization of infant care established an environment that made artificial feeding not only acceptable to many mothers but also "natural" and "necessary." Similarly, Van Esterik (1989) expands the breast-bottle controversy to issues related to poverty, the empowerment of women, the medicalization of infant feeding, and the commodization of infant food. However, other studies on human lactation have revealed that mothers may choose the infant feeding options that are best suited for their particular situation, and that formula/bottle-feeding may be the best option in certain circumstances (Raphael & Davis, 1985).

WEANING PRACTICES

Weaning has many definitions. The textbooks on pediatrics and mothers' manuals all imply that it is the process by which one changes from one method of feeding to another (Lawrence, 1985). Raphael (1976) and Poskitt (1983) state that the first introduction of foods other than breast or formula milk into diet is the true beginning of weaning. Thus, a weaning process occurs over time, during which mothers gradually introduce their infants to culturally-specific, indigenous or manufactured

fluid or solids while continuing to breastfeed (Raphael, 1984). Weaning aims to make the infant less nutritionally dependent on milk. The baby learns to chew, use a spoon and participate in family meals. Many women combine breast and bottle-feeding from very early on, moving from the bottle to solid foods while continuing to breastfeed. The important issue is why they do so. Some mothers say they begin to add foods in response to their infant's restlessness. Others claim that they sense their milk supply to be no longer satisfying their infants. Sometimes custom dictates when women should add food.

According to the WHO Collaborative Study (1981) with regard to infant feeding, the option is not only the breast or artificial feeding, but also breastfeeding plus a locally available food. The introduction of solid food varies widely from country to country. Custom and practices surrounding the addition of solids to infant diet have varied significantly among different cultures and often are not in accord with current scientific knowledge (Broussard, 1984). These variations can be categorised into two major groups; early introduction of solid food or early weaning, and late introduction of solid food or late weaning.

Early introduction of solid food

Early introduction of solid food or early weaning is defined as any time before the recommended 4-6 months (Ross, 1981). This practice is common in many countries, with the majority of babies receiving solids before 3 months of age (Guthrie, 1968; Hood et al., 1978; Kazimi & Kazimi, 1979; Gussler & Nancy, 1983; Musaiger, 1983; Montague, 1984; Akin, 1985; Kusin, Kardjati & Steenbergen, 1985).

The reasons why mothers introduce supplementary food so early are not very clear. Wilkinson and Davies (1978) found that mothers believed that their babies were hungry because they cried after a feeding or demanded feedings earlier than usual and the babies appeared content when fed 1-2 spoonfuls of solids. Mothers in Madura, Indonesia, stated that the introduction of supplementary food would result in bigger infants (Kusin et al., 1985). In Malaita, Solomon Islands, solid food was believed essential for the child's growth. However, some Solomon women said that they gave solid food because the baby wanted it. They thought the infant was hungry when it was restless, fussy, and refused the breast and after being fed with solid food the infant appeared satisfied. As solid food was given by caregivers and other relatives as well, some mothers stated that they could leave the babies to work for as long as was necessary (Akin, 1985).

Whitehead (1983) suggests that if a baby is breastfed, there will rarely be a need for complementary feeding before 2 months. There is research evidence to show that early introduction of solids may be associated with allergic reactions (Guthrie & Riordan, 1977), and an increase in kidney workload (Guthrie, 1968). In addition, Monckeberg (1973) found that early introduction of supplementary foods may be further compounded by an unhygienic environment and thus be associated with increased morbidity and mortality rates.

Late introduction of solid food

Late introduction of solid food or late weaning refers to the period after 6-8 months, frequently extending to after 1 year (Ross, 1981). Despite moves to early weaning, it is still seen in many countries, more frequently in the developing nations.

The Amele of Papua New Guinea, for example, believe that liquid foods are the most suitable for small children, thus little solid food is offered during the first year of life (Jenkins et al., 1985). The authors of this study report that despite low average birth weights, Amele infants catch up to international standards initially but subsequently fall below them again after the first 4-6 months. In India, mothers are very reluctant to give their older infants any of the family foods except cereals. Therefore, most Indian babies grow well at first, but by the age of 6 months many are growth retarded ("Infant feeding," 1984).

Dettwyler (1986) found that Malien women do not believe that a baby needs to begin eating solid foods at a particular age. They say, "when the child is ready, it will begin" (Dettwyler, 1986, p. 656). Most Malien babies begin to eat solid foods when they are "old enough" by some general or specific criteria. This might be general development (perceived age, overall size), motor development (sitting up, crawling well), number of teeth (anywhere from 2-8 is cited as a necessary prerequisite), or when they themselves want to eat.

In addition to late introduction of solid food, childhood food taboos have been reported from many parts of the world (Jelliffe, 1957; Bolton, 1972; Ogbeide, 1974). Gillam (1983) and Lepowsky (1985) conducted their studies in South Wapei and Vanatinai, Papua New Guinea, and found that infants under 2 years of age may not be given animal protein foods such as pig meat, marsupials, most fish, and rodents. The reason given was that the supernatural spirits resident in the animals from which the food originated were too strong for the infants' immature spirit. If the infants ate such foods they would be expected to die. In Malaysia, folk beliefs limited the range of

food given to infants and toddlers (Manderson, 1984). Fish and eggs were believed by many Malays to cause worms and were therefore restricted or prohibited. Similarly, many Filipino mothers believed that fish might cause worms, and that coconut oil as well as any fruit other than bananas could cause diarrhoea and could have the same effect in children (Guthrie, 1988). In addition to the belief that eggs may cause worms, in Nigeria it was believed that small children, having developed a taste for this cash product, may steal it from rich homes which regularly purchase it (Cherian, 1981).

From a number of studies it is evident that the experts would recommend introduction of supplementary food around the age of 4-6 months (Brooke, 1978; Allen & Heywood, 1979; Magnus & Galindo, 1980) with some suggestion that 6-8 months is even better (Parson 1978). The Department of Health and Social Security in the United Kingdom (1980) also states that few infants need food other than milk before 3 months, but that by 6-8 months all babies require supplementary food. If the introduction of solid food is postponed too long, an infant's growth and development is delayed (Jelliffe & Jelliffe, 1978; "Infant feeding," 1986).

However, Wilkinson and Davis (1978) investigated the weaning practices of 50 mothers in England and reported that most (38) mothers started giving solids when the babies cried after a feed or demanded a feed earlier than usual, or both, because they thought that the babies were hungry. These authors, therefore, suggest that the decision to begin solid foods should be based more on the mother's interpretation of her baby's need rather than on age alone.

How breastfed infants are weaned

Practices surrounding the weaning process are of interest. In Nigeria, mothers may smear their nipples with irritating substances such as bitter leaf in order to discourage nursing attempts. Palm wine was sometimes substituted for breast milk for a few weeks, so as to make the baby quiet and sleepy. Once weaned, the majority of children were put directly on the family diet (Kazimi & Kazimi, 1979).

Dettwyler (1987) documented that in Mali, West Africa, a variety of techniques were used to help or encourage the baby not to nurse. Some women reported that they put substances on their nipples to make them taste bad so the baby would not want to nurse. Others said they would leave the child to stay overnight, or for a few nights, with a grandmother in the belief that if he/she did not see the mother, the infant would not cry to be breastfed. Most children were given extra food to eat when they were

weaned. The food was not only seen as replacing the breast milk, thus keeping the child from being hungry, especially at night, but also as a distraction for the child, to help it forget about sucking at the breast. Bananas, biscuits and snacks were common foods given to the child who had just been weaned. However, milk formula was not used as a replacement for the breast milk. For the great majority of children observed in this study, weaning seemed to proceed without any emotional trauma. According to Dettwyler, most of the 136 women studied reported that their children were not upset and did not cry at all when weaned, or only cried during the night for the first few days. Almost every mother in the sample reported that weaning took only one day.

In Canada Williams and Morse (1989) conducted a study of 100 first-time mothers as they weaned their infants and found that three weaning patterns: gradual weaning, minimal breastfeeding and sudden severance were in evidence. According to the authors gradual weaning entailed replacing total breastfeeding of the infant with feedings of milk formulae and/or solid foods over a period of 1-8 weeks. Minimal breastfeeding had two stages: firstly, mothers gradually reduced the number of feedings until the infant was nursed only once or twice daily, and secondly, weaning began when the mother or infant wished to terminate breastfeeding altogether. Sudden severance is when weaning from total breastfeeding happened in one day. The data from this study indicated that the weaning pattern most commonly used was gradual weaning, which allowed the infant to slowly detach from breastfeeding.

STUDIES CONCERNING MATERNAL AND CHILD NUTRITION IN THAILAND

As malnutrition continues to be a serious problem affecting the lives and wellbeing of the population of Thailand, especially infant and preschool children, priority in the Fourth National Development Plan (1977-1981) was given to improving health and nutrition. Numerous studies have been conducted with the aim of alleviating protein calorie malnutrition (PEM) in children as well as promoting maternal nutrition. Nevertheless, research regarding these concerns is dominated by a biomedical orientation. It is only in more recent years that the social and cultural contexts underlying the problem have been examined.

Hank (1963) found that during pregnancy, special supplements are not consumed and many Thai women still restrict their food intake for a length of time varying from several days to up to 2 weeks after delivery to only rice and salt and a small amount of water. Chandrapanond, Ratjatasilpin and Tansuphasiri (1972) conducted a dietary

survey of 11 pregnant women and 78 preschool children in one village of Nakorn Rajsima. They reported that carbohydrate, primarily from rice, comprised the largest part of diet, whereas the consumption of protein, vitamin A, C, B1 and B2, and calcium and iron was low.

Tontisirin and Winichagoon (1984) reported that Thai mothers in rural areas were chronically undernourished prior to pregnancy and their nutritional status was aggravated by traditional beliefs and taboos which inhibited them from consuming nutritious foods. Tuchinda (1980) referred to the 1975 national survey by the Ministry of Public Health when he estimated that about 30% of Thai pregnant women were anaemic, and suggested that anaemia in pregnant women was closely related to low birth weight and premature birth. However, the number of women involving in the survey was not indicated. Amatayakul (1986) found that iron deficiency was the main cause of anaemia in low-income pregnant women in the northern region of Thailand.

Several studies provide evidence of a high incidence of low birth weight infants in Thai rural areas (Chandrapanond et al., 1972; Thanungkul & Amatayakul, 1975; Chaiyaratna, 1979; Somboon, 1980). In an attempt to lower the incidence of low birth weight, Tontisirin et al. (1986) developed six supplementary food formulae for pregnant women, based on locally available supplies which included rice, soya bean, mung bean, sesame seeds, ground nuts, dried shrimp, oil, sweet potato, and sugar. They suggest that among malnourished mothers, food supplementation during the last trimester can significantly improve maternal weight gain and the birth weight of newborns.

There are also studies concerning food beliefs and practices of post-natal and lactating women. Thaigla (1983) studied the beliefs and food consumption behaviour of schoolteachers after childbirth in Chiang Mai and found that of the teachers who had taken nutrition courses, almost none had any nutritional deficiencies during pregnancy, but after childbirth these teachers refrained from consuming certain types of foods which were seen as taboo according to the advice of mothers, close relatives and friends. The study does not document the results of this change.

Lactating women in rural Thailand believe that certain foods can cause postpartum illness or that the foods may be transferred to the infant, thus leading to infant sickness. Therefore, lactating mothers are advised to limit the food consumed during the confinement period to only rice and salt. Moreover, these mothers are encouraged to restrict the amount of food consumed. Even after the confinement period, they continue to avoid certain types of foods (Tontisirin & Winichagoon, 1984).

In Thailand a trend toward a reduction in the duration of breastfeeding was evident during the 1970's among both the rural and urban populations (Knodel & Debavalya, 1980). More recent data have suggested that the trend has levelled off (Knodel, Kamnuansilpa & Chamrathirong, 1985). It was also found that urban residence has been implicated in the abandonment of breastfeeding (Khanjanasthiti & Dhanamitta 1978). Tansuphasiri and Rajatasilpin (1980) state that infant feeding practices in rural communities have changed due to an increase in income. The change concerns the early introduction of breast milk substitutes and the decline in the duration of breastfeeding among working women.

Temchareon, Temchareon and Sirivunaboot (1980) studied attitudes toward breastfeeding of 210 Thai mothers who accompanied their children to the Well Baby Clinics of two hospitals in Bangkok and found that the mothers generally had favourable attitudes. However, some of the young mothers believed that breastfeeding would have negative effects on their health.

Tontisirin and Winichagoon (1984) studied nutrition problems among pregnant and lactating women, infants, preschool children, school children, teenagers and labourers. In terms of breastfeeding, these authors referred to an earlier study concerning protein energy malnutrition related to diarrhoea in Thai children (Tontisirin & Valayasevi, 1981). The latter concluded that virtually all of the 330 mothers in rural areas of the northeast region breastfed their infants during the first 6 months. However, since these mothers tend to have many children close in age, they often hold the impression that breastfeeding impairs their health and figure. These attitudes make them susceptible to persuasive advertisements which promote the selling of infant formula. Unfortunately, due to financial constraints they tend to prepare milk in very diluted form so that it will last as long as possible. As well, sweetened condensed milk has often been used instead of infant formula.

In terms of supplementary food, Tontisirin and Valayasevi (1981) found that by the first 3 months of life, 70-90% of Thai rural infants had already been given a considerable amount of semi-solid or solid food, mostly rice. Tienboon and Surabenjawong (1982) studied infant feeding and infant growth at the Well Baby Clinic, Chiang Mai hospital. The authors of this study reported that the majority of the 586 mothers interviewed introduced supplementary food to infants very early, mostly in the first and second month. It was found that the height and weight of these infants were within normal standards up to age of 6 months, then began to taper off. Kamnuansilpa and Knodel (1985) indicated that in the Northeast region, supplementary food, roasted chewed rice, was introduced very early. Hence, the median duration of full or exclusive breastfeeding was less than 1 week.

Durongdej (1982) studied infant feeding practices in low-income groups in the Bangkok Metropolis. In terms of breastfeeding and bottle-feeding, the study revealed that most of the mothers had a positive attitude toward breastfeeding and attempted to initiate breastfeeding. However, some mothers stated that the babies had been bottle-fed at the hospital and thus had become used to the formula's taste. The babies then refused to be breastfed at home. Some mothers, therefore, believed that the very first kind of milk the baby consumed would influence the choice of preferred milk later on. Moreover, several of the mothers who were home based workers breastfed their infants only during the night and gave a bottle during the daytime. As for working mothers, it was observed that their infants had to be left to stay with grandparents or siblings and mixed feeding was likely to be adopted. It was also found that supplementary foods were introduced to infants early on the advice of relatives and neighbours.

Limtrakoon and Chanprachum (1983) studied the effects of mothers food habits on the nutritional status of preschool children in Chiang Mai rural areas and found that the main factors were the food beliefs during pregnancy and post-natal periods; lack of education; low family incomes and disbelief in modern medicine. Somewhat conflicting evidence comes from Somnasang, Supanchaimat and Samart (1984) who studied factors expected to affect the nutritional status of 65 preschool children in the northeast. They found that there were no significant correlations between the nutritional status of preschool children and household income or land holding. The small size of this study sample makes the conclusions drawn from its less generalisable.

Tontisirin (1985) studied the effects of traditional feeding practices on breast milk produced by mothers in rural Northeastern Thailand and found that infants were fed with supplements as early as 9 days after birth. The volume of milk produced by the mothers was somewhat below that indicated in data from the WHO Collaborative Study on Breastfeeding (1981).

Van Esterik (1985) studied the cultural context of breastfeeding in rural central Thailand. She suggested that Thailand would fit into the middle stages of the WHO typology of breastfeeding. In this model, the prevalence and duration of breastfeeding are declining first among the more prosperous and better educated woman, and secondly among the urban poor, and lastly among the rural group (Van Esterik, 1985). As well, she argued that in rural Thailand, it was not breastfeeding rates that were changing dramatically; rather, the interpretation and context of breastfeeding was being transformed.

Dhanamitta, Viriyapanich, Promchan and Valyasevi (1986) reported an attempt to identify a model of multidisciplinary development intervention which could be replicated on a regional or national scale to improve nutritional status among pregnant and lactating mothers, infants, and preschool children in the rural areas of the country. A pilot project was conducted in selected villages in the northeastern region. Curative health care was found to be a good initial entry point, however, preventive and promotive aspects were essential for long term improvements in the nutritional status of the target infant and preschool children. The study also showed that the most important factors were the readiness of villagers to accept and the interest of leaders to adapt health care ideas.

Sawangdee and Isarabhakdi (1986) studied what determined villagers' consumption of vitamin A rich foods in the Northeastern region using a focused group discussion method in four selected villages. The number of women who took part in the study was not mentioned. It was found that, however, women observed food prohibitions during the pregnancy and lactation periods. Pregnant women avoided eating fat, sugar, fish, pork and certain kinds of leafy vegetables due to the belief that such foods would make the baby too big to be delivered. After delivery the women avoided conception by keeping the uterus "dry" due to the belief that a "dry" uterus makes conception more difficult, and therefore unlikely to occur. The practice of lying by the fire for 2-15 days is believed to make the uterus "dry". These women further avoided eating foods considered "wet" such as fish and chicken due to the belief that such food would keep the uterus wet. The same study also showed that most babies were fed with chewed rice, some as early as 2-3 days after delivery. Some mothers were afraid to feed their children with eggs, fish or other meats because they believed that these foods create parasites and decayed teeth.

During the period 1986-1988, the Research Institute of Nutrition, Mahidol University, conducted a Food Habits Project aimed at identifying causes and factors influencing food behaviours of Thais in various parts of the country (Research Institute of Nutrition, 1988). The target groups were pregnant and lactating women, infants and preschool children. It was reported that most rural Thai mothers, particularly in the north and northeastern region still observed food taboos during pregnancy and the postpartum period. As for babies, due to traditional beliefs, the majority were fed solid food too early and were introduced to protein-rich food too late.

Other studies provide evidence of nutrition and health of tribal women and infants. Viseshakul (1986) studied breastfeeding practices of hill tribe people and found that despite being breastfed by undernourished mothers, hill tribe infants were able to

achieve maximum growth in their first year of life. However, the number of women involving in the study was not indicated. The author of this study proposed that the hill tribe mothers might have the capacity to lactate to the high amount of 1 litre of milk per day in their postpartum year. He calls for the encouragement of "total breastfeeding" in the first year of life.

The Tribal Research Institute (1985) conducted a study to evaluate the UNICEF programmes provided for tribal people over 1970-1980, and to present data concerning the sociocultural impact of the programmes upon tribal women and children. Tribal people from 36 villages in five northern provinces were included in the study. In terms of food for women, it was reported that tribal women practised food restrictions after giving birth. Their main foods were chickens, eggs and some kinds of vegetables. This was due to the belief that the only foods selected were those which would produce milk of high quality and quantity in the mothers. Of the 74 infants aged less than 1 year, 59 were mainly breastfed. The remainder were breastfed and also fed with evaporated milk and/or infant foods. It was also reported that the incidence of children aged 1-5 who suffered from diarrhoea was higher than that for babies aged less than 1 year.

Kunstadter, Kesmanee and Pothi-art (1987) studied cultural and other factors affecting use of modern health and family planning services by hill tribes in Tak and Mae Hongson, northern Thailand. Eight villages (215 households) of two hill tribes groups, Hmong and Karen, were included in the study. With respect to postpartum women, it was reported that Hmong women were treated in ways which were believed to encourage and increase milk production, for instance, the husband must find a chicken or egg for her to eat every day during the first postpartum month. As for Karen women, they followed dietary rules which were believed to induce breast milk and prevent the baby from sicknesses such as diarrhoea. In terms of breastfeeding Hmong believed that if a baby was not fed breast milk promptly after birth, its mouth would become stiff and it would not be able to eat. Hmong infants were not weaned until 18-24 months old unless a younger sibling was born. Although all Karen mothers breastfed their newborn infants, the frequency of breastfeeding suggested by the mothers in the study was low, i.e. three times per day. Furthermore, solid foods, consisting primarily of rice, were introduced shortly after birth. This contrasts with Hmong infants who received solids later.

SUMMARY AND CONCLUSION

The content of this chapter provides readers with an overview of the literature concerned with nutrition of mothers and infants. The discussion concentrates on sociocultural contexts of food behaviours of mothers, and on infant feeding practices.

It is evident from the literature that in many cultures women, during pregnancy and following childbirth, observe food taboos. However, only a few studies have examined the factors underlying these practices.

Research evidence indicates that a variety of factors account for firstly the woman's decision to breastfeed or bottle-feed her baby and secondly the duration of breastfeeding. Although the actual incidence of breastfeeding may not be changing dramatically, the duration is changing. This is important for Thailand as a trend toward reduced duration of breastfeeding is evident (Tansuphasiri & Rajatasilpin, 1980; Knodel et al., 1985) and the context of breastfeeding is being transformed (Van Esterik, 1985). Another highlight of the literature on breastfeeding is a better understanding of the nature of the support women require in order to breastfeed successfully. However, gaps in understanding still exist with regard to what constitutes support and how health professionals, particularly nurses, best fulfil this role, hence the need for the present study.

Overall, available evidence substantiates the case for the influence of traditional beliefs on weaning practices. However, in Thailand, available research which discusses the factors influencing weaning practices is limited. There is a scarcity of research addressing the cultural and socioeconomic contexts in which these factors occur.

Patterns of infant feeding and growth of children result from beliefs and values which operate within particular ecological environments and socioeconomic situations. In Thailand, what is clear is that naturalistic studies of infant nutrition are scarce. The present study, undertaken in the natural setting, is an attempt to fill this gap by identifying what women perceive as factors influencing their beliefs and practices concerning their own and their infant feeding, and describing more fully the sociocultural context of these beliefs and practices. In the following chapter discussion will centre on qualitative research methods generally; and on an ethnographic method, the particular approach chosen for this study.

CHAPTER THREE

THE RESEARCH METHOD

This study is a naturalistic, descriptive study which is intended to provide a clearer understanding of beliefs and practices concerning the eating patterns of pregnant women and mothers of young babies, their infant feeding practices, and the context in which these occur. The particular qualitative research methodology of ethnography was chosen as a means to achieve this aim. While ethnography is clearly appropriate for this specific research question, it is also consistent overall with current trends in research in nursing and developments in nursing epistemology. In this chapter the discussion begins with a brief overview of qualitative research methods in general, and in nursing in particular. A more detailed discussion of the ethnographic method will make clear the reasons for choosing this method for the study. The chapter ends with comment on the value of ethnography as a method for nursing.

QUALITATIVE RESEARCH METHODS

Qualitative research methods have become increasingly important as modes of inquiry for social sciences and humanities. With regard to its history, Bogdan and Taylor (1975) referred to Frederick LePlay's study of European families and community in the 19th century as the origin of qualitative methodology. According to Leininger (1985) German idealists through challenging Bacon's belief that world could be understood only through one's senses were influential in the early development of qualitative approaches to the study of phenomena. German philosophers put much credence on physical reality, and the way individuals could actually influence and create the social world and knowledge. In the late 19th century and the beginning of the 20th, qualitative research methodology, and specifically field research, was widely employed as the main method by European and American anthropologists (Bogdan & Taylor, 1975).

According to Wax (1971), Bronislaw Malinowski was the first social anthropologist who really spent long periods of time in the field. He worked in a native village in New Guinea during World War I. He was also the first professional anthropologist to describe how he obtained his data and what the fieldwork experience was like. Malinowski then developed the research process that was to become ethnography

(Omery, 1988). The most substantive application of anthropology to American education was made by the anthropologist Margaret Mead (Bogdan & Biklen, 1982). Mead brought her experiences in less technological societies to bear on the fast changing American educational scene. She argued that teachers needed to study, through observations and first-hand experiences, the changing contexts of their students' socialisation and upbringing in order to become better teachers.

The methodology has since become more popular amongst other disciplines, e.g., psychology, education and sociology (Bogdan & Biklen, 1982; Leininger, 1985). This method has also been employed in nursing as an appropriate approach for particular topics of research as described in more detail below. Thus during the late 20th century, the number of published studies based on qualitative methodologies has increased.

Authors use the term "qualitative research" in a variety of ways. Some use qualitative research as an umbrella term to refer to several research strategies that share certain characteristics (Van Maanen, 1983; Bogdan & Biklen, 1982). According to this view, qualitative research takes place in a natural setting and the researcher is the key instrument. Alternatively, data can be obtained from qualitative research in the form of words rather than numbers which yield rich descriptions and explanations of processes occurring in local contexts (Bogdan & Taylor, 1975; Wooldrige, Leonard & Skipper, 1978; Miles & Huberman, 1984). Such data are analysed inductively (Bogdan & Biklen, 1982; Burns & Grove, 1987). Support for the use of a qualitative method suggests that it allows the researcher to move close to a social setting which facilitates exploration of concepts whose essence is lost in other research approaches (Lofland, 1971; Bogdan & Taylor, 1975; Reason & Rowan, 1981).

In recent years, nursing has adapted methodologies from several disciplines that employ qualitative approaches, such as anthropology, sociology, psychology and history (Cobb & Hagemaster, 1987). Qualitative research methods have been explained by nurse theorists and researchers in the following ways.

Benoliel (1984: 3) offers this conception: "qualitative approaches in science can be viewed as modes of systematic inquiry concerned with understanding human beings and the nature of their transactions with themselves and with their surroundings". She then goes on to say, "qualitative approaches in science are distinct modes of inquiry oriented toward understanding the unique nature of human thoughts, behaviours, negotiations and institutions under different sets of historical and environmental circumstances" (Benoliel, 1984: 7).

This view is shared by Leininger (1985: 5) when she states that, "the qualitative type of research refers to the methods and techniques of observing, documenting, analysing and interpreting attributes, patterns, characteristics and meanings of specific, contextual or gestaltic features of phenomena under study". Others characterise qualitative methods by emphasising a search for meaning, the nature of the researcher's participation in data collection and analysis, and theory development as the outcome of data analysis (Parse, Coyne & Smith, 1985; Burns & Grove, 1987; Burns, 1989).

Nursing research is required for the discovery of knowledge to develop nursing science (Phillips, 1989) and a major goal of nursing research is the improvement of nursing practice (Swanson & Chenitz, 1982). Nursing has no unique research traditions (Donaldson & Crowley, 1978; Gorenberg, 1983) and the majority of nurse researchers have been strongly socialised to value and use quantitative types of research as the only legitimate method for "scientific" nursing research (Leininger, 1985). The quantitative methods include experimental, quasi-experimental, descriptive correlational, ex post facto, and exploratory designs (Parse et al., 1985). However, for some years now, nurse theorists and researchers have engaged in a lively and enlightening critique of the positivist, empiricist, and mechanistic assumptions on which much of nursing has been built (Munhall, 1989). Many who initiated what was to become an "interpretive turn" in nursing began to think of nursing as a human science, different from the natural sciences such as chemistry and biology (Munhall, 1989). Watson (1981) called for a new research tradition that can provide nursing with scientific freedom to work within the unique domain of human experience. Gorenberg (1983) specifies a need for the development of nursing's research traditions which use qualitative methods for research studies. Field and Morse (1985) propose that qualitative research is useful when there is little known about a domain or a particular phenomenon as well as when the investigator suspects that the present knowledge or theories may be biased.

Others support the use of qualitative research in a variety of ways. Parse et al. (1985: 3) state, "qualitative research gives researchers opportunities to study the emergence of patterns in the whole configuration of Man's lived experiences". Phillips shares this viewpoint when he notes that:

From qualitative research, researchers obtain an understanding of the manifestations of human field and a broader grasp of the meaning of human existence. It enables nurses to transcend the physical to an understanding of lived field phenomena that manifest what it means to be human. (Phillips, 1989: 6)

Some point to the advantages of qualitative research as providing knowledge useful for nursing practice. As Swanson and Chenitz (1982: 245) state, "qualitative research provides a way to construct meaning that is more reflective of the world of practice because its methodology, like its subject, is more organic than mechanistic and, therefore, more suitable to the study of the domain of professional nursing".

This viewpoint is similar to that of Aamodt (1983), who proposes that qualitative research yields detailed observations of the meaning of objects and events in the study unit which is useful for nursing practice. Robertson and Boyle (1984) stress the importance of a better understanding of the meaning of human behaviour as a goal of nursing as a practice profession. In their view, the potential research areas for which nurses could employ qualitative methods, are for example, the effectiveness of health education and the prevention of illness.

With the goal of the research being the discovery of nursing knowledge and theory, qualitative research is described in the following ways. Burns and Grove (1987) state that inductive and dialectic reasoning are the predominant ways of obtaining knowledge in qualitative studies. The qualitative research approach emphasises the discovery of new concepts and theory rather than testing preexisting theory (Klenow, 1981). Conceptualisations which emerge from qualitative data are useful in building a structure for nursing theory which can be tested in subsequent research (Aamodt, 1983; Morse, 1989).

Benoliel (1984) focuses on the importance of a grounded knowledge derived from the qualitative approach in nursing science. She explains further that this research method enables nurses to expand knowledge in several areas such as environmental influences on caregiving systems, the nature of the decision-making processes, and the adaptation of individuals and groups to critical life experiences. Lewis and Haberman (1990) identify one of the advantages of the qualitative approach as being its suitability to examine dynamic processes in the area of health and illness. Such areas include adaptation, change, decision making, transition, development maturation, social interaction, and holism. According to Munhall (1989), the prevalent qualitative research methods that nurse researchers seem most interested in today are: phenomenology, grounded theory, ethnography, history, case studies, and analytic philosophy.

The increasing recognition of qualitative approaches as a means of developing nursing knowledge has led to debate regarding the merits of both qualitative and quantitative research (Haase & Myers, 1988). The criticisms levelled against the qualitative

approach are largely concerned with questions of its scientific adequacy. Some nurse researchers, who have been exclusively devoted to the use of the scientific method for studying nursing problems, have claimed that findings emerging from qualitative methods cannot be generalised because of a lack of empirical control, as well as a lack of specific guidelines for evaluating these methods (Roberts & Burke, 1989). Qualitative methods are frequently viewed as failing to achieve or to make explicit rules for achieving reliability, validity, and objectivity (Sandelowski 1986). Gradually, the dilemma is being resolved as more nurse researchers are proposing strategies for enhancing the credibility of qualitative findings through better data collection methods and analysis of results (Duffy, 1985; Field & Morse, 1985; Parse et al., 1985; Sandelowski, 1986; Cobb & Hagemaster, 1987; Burns, 1989; Roberts & Burke, 1989). Further, many nurse researchers now agree that a variety of methodologies is needed to build research-based nursing practice (Roberts & Burke, 1989). Several nurse researchers point out advantages of using both quantitative and qualitative approaches in a single study (Klenow, 1981; Goodwin & Goodwin, 1984; Tripp-Reimer, 1985; Mitchell, 1986; Haase & Myers, 1988). In their view, combining qualitative approaches with quantitative methodologies results in rich and complementary data sets, and ultimately gives a more complete picture than could be obtained using either method singly.

THE ETHNOGRAPHIC RESEARCH METHOD

This study was undertaken using the ethnographic approach with the aim of providing detailed descriptive data associated with infant nutrition in rural northern Thailand. For a complete understanding of food behaviours of women and infant feeding practices the articulated beliefs and actual practices need to be recorded, and the factors influencing these beliefs and practices identified. The researcher believed that by utilising ethnographic methodology she would be able to explore the sociocultural context in which food behaviours of women and infant feeding occur, and from this basis explicate the salient cultural factors related to the nutrition of women and children in the particular setting.

As already noted, ethnography is a well established research method for anthropologists, who have developed and used the method since the early part of this century (Sanday, 1979; Leininger, 1985; Powers & Knapp, 1991). Van Maanen quotes an earlier definition by Conklin (1968: 172) as follows:

The ethnographic method involves a long period of intimate study and residence in a well-defined community employing a wide range of observational techniques including prolonged face-to-face contact with members of local groups, direct participation in some of the group's activities, and a greater emphasis on intensive work with informants than on the use of documentary or survey data. (Van Maanen, 1983:38)

Others propose that ethnography is the art and science of describing and discovering the knowledge a group of people have, and are using, to organise their behaviour (Spradley & McCurdy, 1972; Emerson, 1983; Fetterman, 1989). Geertz (1973) describes ethnography as a second-order interpretation of the actions and involvements of people one with another. According to Geertz, ethnographic analysis moves deeper when the researcher wants to explain aspects of social patterns or observed conduct. He used the term "thick description" for this more analytically oriented ethnography (Geertz, 1973). Goodenough (1964) emphasised that it is not only a phenomenon which ethnographic description aims to present but also a theory of how informants have organised the same phenomena.

Ethnography has been described by various nurse authors. Omery (1988) views ethnography as the disciplined study of what the world is like to the people who have always lived in that world. Some have defined an ethnographic approach as a naturalistic research method aimed at understanding human behaviour and attitudes through participant observation and informant inquiry (Ragucci, 1976; Field & Morse, 1985; Parse et al., 1985). Another, Germain, defines ethnography as a product and a process. According to this view:

As a product, ethnography is a factual description and analysis of aspects of the way of life of a particular culture or subcultural group. As a process, ethnography is a traditional research approach to the development of theories of culture by the anthropologies (sic) that deal with living people, including cultural, social, and education anthropology. (Germain, 1986: 147)

Yet, others describe ethnography as the systematic process of data collection in order to identify the way of life of people and their cultural behaviour (Aamodt, 1982; Leininger, 1985; Lewis & Huberman, 1990). In their view, this systematic process includes observing, detailing, describing, documenting and analysing the lifeways or particular patterns of a culture (or subculture) of people. In the present study emphasis is on those aspects of culture which are particularly relevant to infant nutrition.

An ethnographic study usually takes place in a natural setting or in the people's familiar environment (Ragucci, 1976; Leininger, 1985), and the outstanding feature of this research method is that the researcher becomes a member of the subculture being studied (Germain, 1986). Therefore, an extensive period of fieldwork and the essential methods of participant-observation and informant interviewing enable the researcher to learn from people the meaning of their lifestyles, including the group's beliefs, behaviours, customs, rituals, events, objects and knowledge (Germain, 1986; Lewis & Haberman, 1990).

With regard to the scope or types of ethnography that are useful for nursing, Leininger contrasts "mini" (small scale) ethnography which is focused on a specific cultural scene, with "maxi" (large scale) ethnography which involves a comprehensive study of both general and specific aspects of a culture. In the latter a researcher might include a description of health care systems and the influences upon them, such as political, economic, religious and ecological aspects. Similarly, Germain (1986) and Omery (1988) describe the scope of ethnography by using the term "macroethnography" for the broad, long term study of a complex society, and the term "microethnography" for the study within the subunits of single social situations, such as a nursing unit, or even a single family.

In coming to understand the ethnographic method, it is important to consider the continuing dialogue between the proponents of the two approaches called *emic* and *etic*. Both approaches have their roots in linguistics (Parse et al., 1985). According to Peltó and Peltó (1978), the *emic* and *etic* approaches are related to the semantics or meanings inherent in cultural organisation of knowledge. The term *emic* is used to refer to the "inside or local viewpoints" of a culture; whereas the term *etic* refers to the "outside or stranger's viewpoints" of a culture (Leininger, 1985).

Within an *emic* approach, the conceptualisations of a particular group must be studied and categorised in the language of the insider's view. This approach is designed to examine how the various elements of a particular group unfold in relation to each other (Peltó & Peltó, 1978). Essentially, *emic* data are inductively or empirically derived from first-hand interviews, observations and direct participant experiences (Leininger, 1985). Spradley (1979) notes that ethnographers, seeing culture as a mental or ideational system, generally assume that it can be described only by "getting into the head" of the people studied. According to Fetterman (1989), the *emic* perspective - the insider's or native perspective of reality - is at the heart of most ethnographic research. The insider's perception of reality is instrumental to understanding and accurately describing situations and behaviours. Native perceptions may not conform to an

"objective" reality, but they help the fieldworker understand why members of the social group do what they do. Differing perceptions of reality can be useful clues to individuals religious, economic, or political status and can help a researcher understand patterns of behaviour.

Conversely, an *etic* view is the external, more universal and generalised view which may be based on the researcher's observations and interpretations of data (Leininger, 1985). The *etic* perspective is described as the external, social scientific perspective on reality (Fetterman, 1989). The *etic* or outsider's view would use quantitative analysis of patterns of behaviour as defined by the observer (Pelto & Pelto, 1978). Leininger indicates that currently, most nursing research findings tend to reflect more *etic* (professional) viewpoints than *emic* (client's) viewpoints. However, Pelto and Pelto suggest that researchers frequently use combinations of *emic* and *etic* data. Both approaches, then, serve the research effort well when used appropriately to the question under study and the theoretical perspective of the researcher.

In this study the terms ethnography, ethnographic approach, and ethnographic method are used interchangeably to convey the nature and intention of the research approach adopted. However, the overall aim of the study was to obtain better understanding associated with infant nutrition in the context in which it occurred. The knowledge gained is *emic* in nature, derived from the subject's or insider's perspective. The methods used in data gathering were limited to only participant observation, interviewing and ethnographic records, as will be described later both in this chapter and the following chapter. It could not be claimed that a full ethnography was developed. The latter would have required additional data such as a historical perspective on the field site and on the social and cultural patterns described, and perspectives other than those of selected key informants.

THE RESEARCHER AS AN INSTRUMENT

A number of authors emphasise that the researcher is the primary research instrument in conducting ethnographic fieldwork (Agar, 1986; Germain, 1986; Fetterman, 1989; Powers & Knapp, 1991). The ethnographer participates in the events of the cultural group and, with the help of cultural informants, looks for connections, patterns, themes, or relationships that have meaning for the people in it (Germain, 1986). The major modes of data collection employed by ethnographers are participant observation and interviewing. Other methods, such as life histories and event analysis, supplement the major ones.

Participant observation

When fieldwork is used, the data are collected and analysed by a human observer, thus participant observation becomes the key instrument (Quint 1967). Over recent decades participant observation has become increasingly popular. Pearsall (1965) referred to its uses in settings ranging from communities and organisations to small groups, and from the field to the laboratory. According to Spradley (1980) ethnographers have done participant observation in a variety of settings and there appears to be a great variability in the type and size of research sites. For instance, ethnographic studies have included a remote tribal village in India (McCurdy, 1971); an Eskimo hunting group in northern Alaska (Nelson, 1969); a self-service restaurant in Helsinki, Finland (Kruse, 1975), and even a bus in Tulsa, Oklahoma (Nash, 1975).

Participant observation is not only a technique used and developed by cultural anthropologists (Pelto & Pelto, 1978). It has been used by sociologists when they study particular segments of society. An example is Whyte's study of an Italian slum as reported in *Street Corner Society* (Quint, 1967). Whyte (1955) lived in Cornerville, a district in Boston for almost 3 years, learned Italian, and was received into the life of the community. His research provides a description of the groups or gangs which were the recognised form of social organisation of the boys and young men of the district. The book which Whyte wrote on the basis of his experience in Cornerville has become one of the classics of American sociology.

Participant observation has been described by authors and researchers in the following ways. Junker (1960) and Gold (1969) viewed participant observation as a device for getting information and also a set of behaviours in which the observer is himself involved. Schwartz and Schwartz (1955) defined participant observation as a process in which the observer's presence in a social situation is maintained for the purpose of scientific investigation. In this way, the observer is in a face-to-face relationship with the observed, and, by participating with them in their natural life setting, he/she gathers data. Pearsall (1965) notes three distinct and analytically separate aspects of participant observation: as a role, implying reciprocal roles; as a body of techniques for gathering detailed information; and as a methodology for obtaining maximum knowledge and understanding of human behaviours in the sociocultural and psychosocial contexts. Participant observation also seeks to uncover implicit or unconscious behaviour as well as behaviour that may not be included in the informants' descriptions (Field & Morse, 1985). However, the successful employment of the method of participant observation is predicated upon one's ability to establish rapport and relationships of mutual trust and respect with informants (Ragucci, 1976).

Participant observation is commonly used in qualitative nursing research studies that are directed toward examining the nature of phenomena and where results are to be qualitatively analysed. This approach can yield a great deal of data, but the quality of data collected is highly dependent upon the judgment, observation, and recording skills of the participant observer (Roberts & Burke, 1989).

Junker (1960) outlines four theoretical social roles for fieldwork according to the amount of involvement that the observer has in the research setting: complete observer; observer-as-participant; participant-as-observer; and complete participant. Each type of participant observation is discussed below.

Complete observer: The complete observer role entirely removes a fieldworker from social interaction with informants (Junker, 1960). In this role the fieldworker may be visible but does not interact with those being observed. Invisible observation may be accomplished through a one-way mirror or a hidden vantage point or through the use of cameras, ethics permitting (Junker, 1960; Pearsall, 1965; Germain, 1986). This method has the disadvantage of not permitting the observer to interview, interject or to clarify issues with the participants in the setting (Field & Morse, 1985), thus the researcher may reject informants' views without ever getting to know them (Burgess, 1984).

Observer-as-participant: The research role of the observer is publicly known at the outset, is more or less publicly sponsored by people in the situation studied, and is intentionally not kept under wraps (Junker, 1960). Since most people are willing to express private views or feelings to an attentive stranger who becomes known for guarding confidential information, this role may provide access to a wide range of information, and even secrets (Junker, 1960; Pearsall, 1965; Germain, 1986). However, because the observer-as-participant's contact with an informant is so brief, and perhaps superficial, he/she is likely to misunderstand the informants, and to be misunderstood by them (Gold, 1969; Burgess, 1984; Field & Morse, 1985).

Participant-as-observer: The researcher's role is not wholly concealed, but the observer activities are subordinated to activities as a participant, activities that give the people in the situation their main basis for evaluating the fieldworker (Junker, 1960; Germain, 1986). Probably, the most frequent use of this role is in community studies, where an observer develops relationships with informants through time, and where he/she is apt to spend more time and energy participating than observing (Gold, 1969). Compared to the observer-as-participant, the participant-as-observer can penetrate further beneath the surface of public behaviour and superficial expression (Pearsall, 1965). However, in this role a nurse researcher may find herself in conflict when she tries to "work two jobs at once" (Field & Morse, 1985).

Complete participant: In this role, the true identity and purpose of the researcher are not known to those whom he or she observes (Pearsall, 1965; Gold, 1969; Burgess, 1984). A researcher attempts to become a fully-fledged member of the group under study. In today's research scene, this deceptive role is considered by many to be unethical, since it violates the principle of informed consent of study subjects (Junker, 1960; Germain, 1986). Moreover, the task of recording data secretly after long hours of playing some cover-up role demands more physical, intellectual, and emotional stamina than most researchers possess (Pearsall, 1965). In addition, after a length of time in the setting, the researcher may "go native" and lose objectivity and ability to "step back" and engage in critical reflection needed for fruitful ethnographic research (Field & Morse, 1985).

Several authors recommend that the practising fieldworkers should keep in mind that they may find themselves shifting through time from one to another of these roles during the course of the study in order to gain rapport with the people (Junker, 1960; Dobbert, 1982; Jorgensen, 1989). As well, nurses' role as the participant observer may range from pure observer to pure participant to nonparticipant as the research role is influenced by many factors such as the design of the study, the research purpose and the ability of the researcher to assume the role (Pearsall, 1965; Byerly, 1976; Germain, 1986).

In the present study the researcher took the role of **observer-as-participant** by introducing herself as a nurse researcher. However, the contacts with informants were not brief nor superficial as the researcher spent an extensive period of time in the field. Therefore, the limitations of this role were minimised.

Interviewing

As the major goal of ethnography is to elicit the native or insider's viewpoint, interviewing integrated with participant observation is the most important data gathering technique (Pelto & Pelto, 1978; Fetterman, 1989). The open-ended and unstructured interview is the most common form of interviewing in ethnographic work because it lets the informant's ideas be revealed rather than those of the interviewer (Leininger, 1985; Germain, 1986; Fetterman, 1989). This type of interview is usually conducted informally in the natural setting. However, at the middle and end stages of a study formally structured and semi-structured interviews may be used to answer specific questions (Robertson & Boyle, 1984; Fetterman, 1989). Therefore, a combination of interview formats is often employed.

Spradley (1979) suggests that an ethnographic interview should be thought of as a series of friendly conversations into which the interviewer slowly introduces new ethnographic elements. He describes the three most important ethnographic elements as the explicit purpose - the ethnographer must clearly state the purpose of the interview; the ethnographic explanations - repeated explanations help the informant relate information more effectively; and the ethnographic questions - various types of questions - which lead into the analyses the ethnographer must perform.

The major types of questions commonly used in conducting ethnographic interview have been described by Spradley (1979) and Fetterman (1989) as follows.

Survey or grand tour or descriptive questions

This type of question is used to elicit a broad picture of the participants' world. It enables the researcher to identify significant topics, and to explore and help define the scope of the study. Examples of a survey or descriptive question are: *"Tell me about your recent experiences in the hospital."*, or *"I am interested to learn about your food practices during pregnancy."*

Specific questions (Structural and contrast questions)

Structural questions are asked concurrently with, or as a complement to, survey or descriptive questions. They are those questions which allow the researcher to understand not only what people know but also how they organise their thoughts and knowledge. An example of a structural question is : *"We've been talking about different kinds of food you are told not to eat during pregnancy. Can you tell me how you know what foods are not to be eaten during pregnancy?"*

Contrast or what Fetterman (1989) calls "attribute questions" are designed to compare in order to show differences. They are formulated as the researcher notes particular differences in the ways an informant describes the symbols in conversation. An example of a contrast question is: *"We've been talking about the foods you eat during the first postpartum month and in going over our talk, there are some differences I'd like to ask you about. What's the difference between "hot" and "cold" food?"*

The interviews conducted in this study were open-ended and unstructured. All interviews occurred in the natural setting. A detailed description of ethnographic methods and procedures employed within the present study will be presented in the following chapter.

Informant

Spradley (1979) uses the term "informant" in a very specific way. In his view, informants are the foremost native speakers engaged by the ethnographer to speak in their own language or dialect. Informants provide a model for the ethnographer to imitate and are a source of information. An informant may be defined as a person who is able to provide information in certain areas or on a particular subject (Dobbert, 1982). Essentially, a good informant must be willing to share an experience with the interviewer and be able to critically examine the experience and his/her response to the situation (Morse, 1989).

There are two major types of informants: key informants and ancillary or general informants (Dobbert, 1982; Leininger, 1985). A key informant is someone who has undergone or is undergoing experience of interest to the researcher. Data from key informants complement that obtained through participant observation, through other techniques, and through other informants. General or ancillary informants are used to provide reliability checks and validation of the key-informants' data.

The selection of individuals in field studies is a different procedure from the selection procedure associated with statistical sampling in survey research. Some authors note that informants are selected according to their role and knowledge of a particular setting, and the type of relationship they have with others in the setting (Burgess, 1984; Field & Morse, 1985). However, Evaneshko (1985) states that there are no set rules for identifying appropriate respondents or informants in nursing field research studies, since so many factors influence this process; including the focus of the research, its design, initial contacts, and just plain serendipity or luck.

SIGNIFICANCE OF ETHNOGRAPHY TO NURSING

Nursing as a profession needs to develop a meaningful knowledge and theory base from which nursing practice can evolve. The use of the ethnographic method as an important means to discover nursing knowledge and improve nursing care practice has been described by several nurse authors.

As a practice profession, it is generally agreed that an improved understanding of client's lifestyle, health beliefs and behaviours can enhance nursing judgment and decision making, and help nurse clinicians make meaningful and appropriate nursing interventions (Leininger, 1978; Robertson & Boyle, 1984; Leininger, 1987; Gonzalez

& Sharma, 1988). Health and illness behaviours, like other human activities, occur within a total cultural context, no part of which is entirely independent of other parts (Berreman, 1966). For culturally relevant nursing care to be developed and implemented, the knowledge and theory base of nursing needs to be expanded by research which specifically aims to investigate the cultural context associated with health and illness phenomena (Robertson & Boyle, 1984). Thus, ethnography is a research approach eminently suited to this purpose.

Ragucci (1976: 172) states that "the final goal - of which the nurse-ethnographer should never lose sight - is to grasp the patient's point of view, his/her relations to life, to realise his/her vision of the phenomena of health and illness". In pointing to a need for ethnographic methodologies in nursing research, Aamodt (1982: 209) states that "a growing body of knowledge for practice and research, based on the ethnographic techniques of participant observation and ethnographic interviewing, accentuates a need for a continued examination of ethnographic research in an applied science such as nursing".

The contributions of ethnography to nursing are addressed by several nurse authors (Aamodt, 1982; Field & Morse, 1985; Germain, 1986; Leininger, 1987; Omery, 1988; Powers & Knapp, 1991) as follows. Firstly, ethnography yields detailed descriptions from which analysis can be made which enable nurses to understand human behaviour in its cultural context. Secondly, an ethnographic approach which usually occurs in the natural setting allows the researcher to obtain the information from the native's viewpoint - the informant's view of the experience. In this way the knowledge gained provides a sound basis for developing theories that are relevant to the people's lives.

SUMMARY AND CONCLUSION

In this chapter discussion has centred on qualitative research in nursing, with an emphasis on the ethnographic method, the particular method chosen for the present study.

In recent years qualitative research has become more popular as a mode of naturalistic inquiry in social sciences and humanities. Similarly, nurse researchers have increasingly employed qualitative approaches as another means of developing nursing knowledge. Ethnography is a qualitative research approach developed by anthropologists. Its purpose is to describe a culture or particular aspects of a culture. Ethnographic methodology enables the nurse researcher to investigate the context in

which people's health beliefs and practices evolve as well as to identify the cultural components of health and illness. An ethnographer is a human instrument who conducts ethnographic fieldwork. Participant observation, used in conjunction with interviewing, is the most frequently used data gathering technique. Major points on the continuum of participant observation are: complete observer; observer-as-participant; participant-as-observer, and complete participant. In the present study the researcher employed the role of observer-as-participant.

In the following chapter a description of how the researcher applied the method in this study will be presented. Emphasis will be placed on the strategies employed and the experiences obtained in the field.

CHAPTER FOUR

FIELDWORK STRATEGIES

Having discussed the general nature of the ethnographic method in the previous chapter, it is now appropriate to present the manner in which this study was carried out. This chapter focuses on preparatory activities as well as actual field research strategies, data gathering and analysis, and ethical considerations.

PRE-FIELDWORK

There is no clearcut differentiation between what could be labelled as preparatory fieldwork activity versus actual entry activity (Evaneshko, 1985). In this section I will discuss the activities I engaged in before entering the field. These include choosing the research site, gaining access to the setting and the people to be studied, and personal living arrangements.

Choosing the research site

Several authors offer guidelines and criteria for choosing the research site in field research (Spradley, 1980; Smyth, 1981; Burgess, 1984). These include the availability of a representative sample with all the necessary characteristics; their willingness to cooperate; the accessibility of the community; time; budget; convenience; and permission. However, Spradley notes that it is rare for the researcher to be able to meet all these criteria in selecting a social setting.

This study was undertaken in Ban Dee, Chiang Mai Province, Northern Thailand. A detailed description of the village will be presented in the following chapter. Before deciding to conduct my fieldwork in this village, I made a general visit to three rural villages in three different districts in Chiang Mai province. I looked for an area where there were pregnant women, mothers of young children and malnourished children, where there was no food shortage or famine, where there was no obvious extreme poverty, and for an area in which access could be made without undue difficulty. Ban Dee village seemed to fit these criteria.

Firstly, the current information obtained from the district and subdistrict health offices showed that Ban Dee had an incidence of malnutrition among young children. Of the 60 under-fives, based on the weight for age norms there were 12, 6 and 1 in the categories of first, second and third degree malnutrition respectively. Secondly, with regard to food availability, Ban Dee showed no problems. The details of food availability are discussed in Chapter Six. Thirdly, the village is about 40 km from the main town and transportation is not a barrier to food accessibility. In addition, I was able to maintain some contact with the outside world without any difficulty. Fourthly, according to the old villagers, the village is about 70-80 years old. Therefore, I hoped to gain information from the elders who had lived in the village since they were young as well as from the younger generation. Lastly, and most important of all, during the first visit the villagers themselves impressed me favourably in terms of their friendliness. I was greeted by many people at the food market and it seemed to me that they were willing for the research project to go ahead.

The fact that previous research was carried out in the same village 16-17 years earlier may explain their willingness to cooperate. This village has been intensively studied by the anthropologist Christine Mougne who reported that during the period 1973-1975 she spent 2 years in the field conducting an ethnography of reproduction (Mougne, 1978). Her informants were all women in the village aged 60 and over. During the period of my fieldwork [late May 1989 - late February 1990], some of my general informants aged 50 and over mentioned their previous contact with this researcher, although none of my key informants did so because they were very young at that time.

Since most criteria were met, I then proceeded to seek entry to the setting. As the research has proceeded, I have had no reasons to question this initial decision.

Strategies for entry to the field

There are no set rules for entry into the fieldwork area because the usual activities of daily living, in which field observations of human behaviour are made, vary widely. However, general guidelines have been used by anthropologists for some decades (Junker, 1960; Middleton, 1970; Wax, 1971). It is important that the field researcher realises that his/her presence, to some extent, influences the data (Leininger, 1978; Spradley, 1979) and the researcher is advised to minimise any potentially intrusive aspects of fieldwork (Evaneshko, 1985). In this section the entry strategies will be discussed.

Gaining access

To ensure, as far as possible, that I was accepted into the study setting, a number of steps were undertaken prior to the actual initiation of data collection.

In order to gain access to the people to be studied I first obtained access to the village. Official permission to undertake the study in the selected village was applied for by means of the following steps. Firstly, as I am an academic staff member at Chiang Mai University, the request for permission to undertake the study was sent to the Provincial Governor and the Chief of the Provincial Health Office through the University Rector. Secondly, when the official permission was given, I made direct contact informally with the Chief of the District Office, the Chief of the District Health Office, and the staff of the Subdistrict Health Centre. Thirdly, before moving into the village, I went to visit the village headman who also acted as the headperson of this subdistrict. I introduced myself, informed him about the purpose of my study and asked for permission to live in the village. Informal contacts with the members of the community were also used by visiting some key persons in the village, including the village medicine man and a few old villagers who were highly respected by most other villagers.

Choosing a place to live

The decision whether to live with the people or outside the community is based on such factors as the nature and duration of the fieldwork, availability of housing, customs and traditions (Van Stone, 1970; Wax, 1971).

I planned to live in the village for a cumulative minimum of 6 months. The long duration for the study required a permanent residence arrangement, preferably a living arrangement which would permit daily observations of the activities related to infant feeding practices. Therefore, the choice of living arrangements was made with the following considerations. Firstly, the residence would preferably be centrally located within the community to permit observation of daily comings and goings and to allow formal and casual visitors to have private talks or interviews. Secondly, I needed privacy to write up field notes and complete other data-collecting activities. Lastly, as a female fieldworker, I wanted to ensure my own safety and that of my possessions.

While making a visit to the subdistrict health centre which was about 1 km from the centre of the village, I was offered accommodation in a vacant house at the centre. I decided not to live there as it was not convenient and not safe to come and go,

particularly at night. In addition, I did not want the villagers to view me as one of the staff of the health centre nor to show deference towards me as they usually did to most government officers. I considered that it might be a barrier to obtaining their viewpoints and attitudes toward the community health workers. I was fortunate that there was one small vacant house near the village centre available as the owner had gone to work in another district for a period of time. I decided to rent this house by paying 500 baht/month (NZ\$ 33-35).

Compared to the one-room village huts, my house seemed luxurious. There were two bedrooms with a wide verandah outside. One room was for sleeping and the other for keeping supplies. I worked, received company, and ate on the verandah. It was centrally located and surrounded by the villagers' houses which made me feel that it would be safe. It was also convenient for me to come and go between the house and the villagers' houses. I was able to make notes immediately after each visit and also had a short rest before proceeding to other houses.

IN THE FIELD

Field research strategies used by the ethnographic researcher concern making initial contact, establishing community and client expectations and attitudes related to the researcher's role, collecting and analysing data, identifying respondents, developing trust, and handling ethical problems (Bogdan & Taylor, 1975; Burgess, 1984; Evaneshko, 1985). In the following section discussion will be focused on social interaction and the ways I conducted myself in the presence of the research participants.

Making myself known to the villagers and developing a relationship

I realised that in conducting an ethnographic field study, the success of the research is largely determined by the relationship between the researcher and the people to be studied, particularly during the initial contact. During the initial period I had one secondary school girl as a guide. She showed me around the village and introduced me to the villagers. I made myself known to the villagers and endeavoured to develop rapport with them in the following ways.

Firstly, I rode a bicycle along the roads and small lanes in the village in the evening and greeted people. I introduced myself, *"I am a nurse. I work in the hospital in town. Now I live in this village and I will be here for many months. I would like to*

visit pregnant women and mothers with young children because I want to know and learn from them about the food they usually eat." As most Thai people are unable to distinguish the role of health professional, I was also called 'mho' which means a doctor or a physician. I was soon introduced to potential informants.

Secondly, I presented myself in the village markets both in the morning and in the evening. This enabled me to meet many villagers, mostly women. I also took this opportunity to introduce myself.

Thirdly, I engaged in village activities such as religious ceremonies at the temple on Buddhist holy days and cremation ceremonies. This also allowed me to meet both young and old villagers.

Fourthly, I attended a village meeting which was held 2 weeks after I had moved into the village and introduced myself. There were about 200 villagers attending the meeting.

Lastly, visiting some seriously ill people at home permitted me to meet their neighbours and relatives. However, I did not perform any treatment or nursing care. I gave advice only when requested. This sometimes created problems as will be discussed in the last section of this chapter.

Although Ban Dee is relatively big and I was unable to visit every household, I was widely known among the villagers, particularly women, by word of mouth after the first few months. I was always greeted while biking around the village. Many villagers said, *"I have never met you before but I know who you are because my neighbours talked about you. We are very glad that you live in the village and visit us. We have never before had 'mho' visit us at home like you do."*

Acquiring informants

Key informants

The selection of key informants in this study was based on the following criteria and rationale. Firstly, I looked for pregnant, postpartum and lactating women and mothers of the under-twos because these women had recently undergone or were undergoing the experiences of pregnancy, childbirth, and infant care and feeding. It was assumed

that as first-time mothers, women would be reliant on their traditional beliefs and advice from others with respect to what they ate and how they fed their infants. Therefore both first-time mothers as well as those who had more than one child were included among those interviewed so that any differences in their viewpoints could be identified. The overriding consideration was that all the women must be willing to participate in the study.

With these criteria in mind I looked for possible informants. At the subdistrict health centre, information on the total number of current pregnant and postpartum women was unavailable because some women attended ante-natal clinic and gave birth at the hospitals. Only the number of mothers of under-twos appeared in the under-fives' weight record undertaken 3 months previously. According to this record, there were 17 mothers of under-twos. I began searching for possible informants by visiting women whose name appeared in the record of the health centre. I gained further informants by asking these women for introduction to other women who met the criteria. Yet other informants were referred to me by other villagers while making home visits and attending village activities. Throughout the 10 month period of fieldwork, 31 possible informants were identified. Of this number, 18 (58.1%) were my key informants. Demographic overview of key informants were shown in Table 4.1. This information was acquired during the first visit, after the informants' willingness to participate was obtained.

Ten of the women were pregnant when I first met them. Of these, I took the eight women who were due to give birth prior or in February 1990. Two women pregnant with their first children and due to give birth after February 1990 were not approached as I would not be able to observe and interview them following childbirth.

Table 4.1: Demographic overview of key informants
[from interview data]

	n	%
<u>Number of children</u>		
one child	11	61.1%
two children	4	22.2%
three children	2	11.1%
six children	1	5.6%
<u>Age in years</u>		
40 and over	1	5.6%
35-39	1	5.6%
30-34	2	11.1%
25-29	5	27.8%
20-24	6	33.3%
18-19	3	16.7%
<u>Level of education</u>		
literate	1	5.6%
primary schooling (4 years)	2	11.1%
primary schooling (6 years)	15	83.3%
<u>Level of family income/year in Baht</u> (1NZ\$=14-16 Baht)		
less than 6,000	3	16.7%
6000 - 10,000	10	55.6%
10,000 - 20,000	4	22.2%
more than 20,000	1	5.6%
<u>Religion</u>		
Buddhism	18	100%

N = 18

The remaining 21 women had children aged less than two years when I first began collecting data in June 1989 [the second month of fieldwork]. Of this number, 10 (4.8%) were key informants in the present study. I approached 12 women and none

of them refused to participate. However, two of these were lost to the study. One woman's family moved to live in another town unexpectedly. The other was rarely available as during the day she accompanied her husband who was a minibus driver. Her mother looked after the 6-month-old son. They usually left very early in the morning and returned home 7-8 o'clock at night, after which time she was always busy with the baby and household chores. Visiting her at night raised problems of safety because her house was some distance from mine, so although she did not deliberately withdraw from the study, I decided not to include this woman. The reason for not approaching any of the remainder was the time frame for the study as explained below.

During the first 4 months of fieldwork, I had 10 key informants. Of this number, five were pregnant women, and another five women were the mothers of the under-tuos. To maintain contact with the informants I visited them at least once a week. Because of the complexity of the task in interviewing and observing, it took a considerable amount of time for each visit, especially as I had to expand field notes before proceeding to other informants. As I gained skills in data collection, I gradually increased a number of informants. By the end of November 1989 [the seventh month of fieldwork] I stopped acquiring informants. By that time, there were 11 first-time mothers, four second-time mothers, two mothers of three children, and one mother of six children included in the study.

Developing relationship with possible informants during the initial period, as described above, enhanced the process of acquiring informant. After introducing myself and simply explaining the purpose of my study to the potential informants, I told them that while they may not directly benefit from the study, it was hoped that other women and children would benefit in the future. Then I asked whether they were willing to participate in the study. None of the women I approached refused to participate. Some were shy and were not talkative during the initial period, but as trust and rapport developed they became fruitful informants. The criterion concerning the willingness of the participant was met in all cases. As the study proceeded the first few informants introduced me to further informants.

General informants

In this study, general informants were 15 elderly women, 17 fathers of the under-tuos [one woman had no husband], three members of staff of the subdistrict health centre, and 6 volunteer health workers. These informants were acquired throughout the course of the study.

The elderly women were the mothers, mothers-in-law, aunts, and aunts-in-law of the key informants. I interviewed and observed them whenever they were available, mostly while they were looking after their grandchildren. As for the under-two's fathers, I talked to them whenever they were free from work, mostly in the evening.

At the subdistrict health centre, there were three members of staff [see further information on p 122]. I observed them and did informal interviews while visiting the centre. Also I made appointments for interviewing when they were not very busy.

In this village there were one village health volunteer (VHV) and 18 village health communicators (VHCs). The VHV was also a village medicine man. I observed and interviewed him at home. Data were obtained from five VHCs as the opportunity offered, while visiting them at home and accompanying them to weigh the under-fives in the village.

Establishing trust and rapport

Trust and rapport are assumed to be essential factors for fieldwork validity and reliability (Evaneshko, 1985). Rapport refers to a harmonious relationship between a fieldworker and an informant but it does not mean deep friendship or profound intimacy between two people. Trust involves the development of confidence by the fieldworker in the informant's integrity and veracity (Evaneshko, 1985; Spradley, 1979). In most situations the informants learn to trust the fieldworker as well. In this section the manner in which I built trust and rapport with my informants is addressed.

Firstly, I attempted not to make any distinction between myself and the villagers, particularly the poor. Although there is no real class distinction in Thai society, Thai villagers defer to those in authority. Physicians, nurses, and government officers are viewed in authority roles and the people would tend to defer to them. As well, they usually welcome them as visitors even though they are busy. Therefore, while visiting the homes of villagers I always told them not to stop what they were doing. My dress was chosen carefully, so that I was not much different from most of the villagers. In Ban Dee, the village women usually wear blouses and 'phasin' (lower garment) at home but when they go out or to a special occasion, some women wear slacks or jeans instead. I wore a shirt or blouse and slacks because they were comfortable for me.

Secondly, I attempted to make the informants feel as comfortable as possible. Normally, a village house has only one or two bedrooms and a verandah outside which serves many purposes including entertaining visitors. The house is always untidy and not always clean, especially that of a family which has young children. On my first visit with each informant I was usually invited to sit on a chair and some women prepared a mat for me but I never hesitated to sit on the house floor whether it was dirty or clean. The women often said that they were afraid that my clothes would be dirty because the floor was not clean enough. I told them not to be worried about my clothes and continued sitting on the floor with them. Therefore, during my subsequent visits the women rarely expressed any uncomfortable anxiety concerning the state of their houses. The fact that I spoke their dialect also made the informants comfortable, and so facilitating conversation and enhancing good rapport.

Thirdly, I shared meals with the villagers whenever invited. Thai people often welcome their visitors by inviting them to have a meal. I was often invited to eat with them when my visit was about to be over. As I introduced myself as a nurse, the villagers were often worried about the cleanliness of the dishes. Some were concerned about the food as they thought their food was not good enough for me. They would say, *"We don't have much meat in our meal today. We have chili paste and boiled vegetables. Will you have it?"* I told them that I could eat whatever they had and joined them in eating their meals.

My data collection was enhanced by gaining free access to the informants' houses in the manner described above. Additionally, my key informants provided me with information concerning events that occurred when I was not there. However, I did not try to win acceptance by "going native" or becoming a fully-fledged member of the community being studied. I was always conscious of being a researcher and sought the chance to obtain information in the natural setting.

DATA COLLECTION

As mentioned in the previous chapter, the researcher is the principal instrument in conducting ethnographic fieldwork. The research tools used to gather data regarding infant nutrition in this study were: participant observation; ethnographic interview; and ethnographic records. A detailed discussion of each of these research tools has already been presented in the previous chapter. In this section, the discussion will centre around the manner in which these research tools were employed.

Participant observation

Bogdan and Taylor (1975) recommend that the researcher should adequately explain the purpose of the study to the participants. In their opinion, a statement of the study in general terms is usually adequate, whereas detailed explanation of purpose masked in jargon and highly technical language may alarm them. They go on to say that observers need not explain their substantive or theoretical interests or their specific techniques in great detail because if the subjects knew how closely they were going to be observed, they might become extremely self-conscious in the observer's presence. This does not mean that the researcher withholds information about the study but that he/she wishes to avoid frightening the subjects. According to Bogdan and Taylor (1975) and Burgess (1984) the researcher should participate only to the extent necessary to establish rapport unless he or she feels ethically bound to do otherwise. Beyond that, he/she must control involvement.

In this study, participant observation was conducted over a 10 month period. As mentioned in the previous chapter, an observer-as-participant role was predominantly used in this study. Problems of bias arising out of the researcher's brief contacts, which are the inherent nature in this role, were overcome by numerous contacts with each informant.

As stated earlier, I introduced myself as a nurse who would live in the village for a period of time to study health and the nutritional status of mothers and young children. I explained the purpose of my observation in a way that would not alarm or produce anxiety in my informants. For example, while visiting a 2-month-old baby whose mother was preparing rice for the baby, I said, *"I would like to know how you prepare and feed rice to your baby. Would you allow me to watch you?"* Furthermore, I conducted myself in such a way that I eventually became an unobtrusive part of the scene by telling the women to do whatever they were used to doing and whenever they wanted to, and I never made any comments on their practices regarding infant feeding.

In utilising an observer-as-participant role, I engaged the women in activities and conversations related to food practices such as harvesting food crops from the fields; obtaining food from a variety of sources i.e., markets, natural sources, neighbours; preparing food; and consuming food. Particular emphasis was placed on the food practices of pregnant and lactating women and infants up to 2 years of age. Thus, attitudes and beliefs obtained regarding infant feeding were ascertained during these activities.

Being an observer-as-participant brought me into intimate contact with my informants and enabled me to uncover implicit and unconscious behaviour. Most of the observations took place in the natural setting. For instance, I took the chance to observe while the mothers were preparing rice for the babies, and also asked what they believed about feeding rice to the babies. However, when first entering the field, I was overwhelmed by the amount of information I received. I was aware that observations are only useful to the extent that they can be remembered and accurately recorded. I therefore attempted to regulate the flow of information by limiting each period of time spent in the setting. This allowed me to remember what I had observed and also I had time to jot down my field notes. As I became more familiar with the setting and improved my observation skills, I increased the length of time spent observing.

Although I intended not to engage in a professional role as a nurse while conducting fieldwork, at different times in the course of research I found myself in a participant-as-observer role. This will be discussed in the following section.

Interviewing

As mentioned in the previous chapter, interviewing, particularly with key informants, is used to best advantage when it is closely integrated with participant observation. In this study the focus was on informal, non-structured interviews, most of which took place in the natural setting, usually at the informant's home. The informants' daily lives and activities were interrupted as little as possible. For instance, I conducted interviews while a mother was nursing her baby or while a grandmother was keeping an eye on her grandchild who was wandering around the house compound. By so doing, the interviews usually flowed spontaneously in a normal, casual, and conversational way.

Before each interview I usually asked friendly questions such as; *"How is your baby today?"* or *"Did your baby sleep well last night?"*. As the informant became more comfortable with me, I informed them of the purpose of each interview in general terms. For instance, in conducting an interview about infant feeding with the mother of a young baby, I would say, *"Today I would like to know about feeding a baby."* However, I indicated that there was no requirement for us to cover every aspect in one session and that they were free to seek clarification of any of the points that I had made as well. From there I went on to ask the survey or grand tour questions. For example, *"Could you tell me what, and how, you have fed your baby since he was born?"*

While interviewing, I usually encouraged my informants to talk and I remained passive most of the time. If needed, I probed appropriately rather than tightly structuring the interview. However, as it was not possible to obtain all the information at one time, after interviews I often asked if I could return if any additional information was needed.

At the conclusion of each interview the data were analysed and I planned the direction for the next interview by developing another set of open-ended questions. The subsequent interviews were more focused on particular topics by using the more specific questions, structural and contrast questions, in order to seek as much information as possible. Examples of structural questions and contrast questions are given below.

Structural question: *"We've been talking about the different kinds of foods that are given to the baby together with pre-chewed rice. Can you tell me how you know what foods are to be given or not to be given to the baby?"*

Contrast question: *"We've been talking about your food during the post-natal period and in going over our talk there are some differences I'd like to ask you about. What's the difference between "dry" food and "wet" food?"*

Interviewing is an art that requires training, practice, and guidance (Smyth, 1981). In this study, the experience I gained from the previous interviews was very useful in the subsequent interviews. The questions were modified from time to time in order to make sure that they tapped the right areas. I also avoided asking awkward questions. For example, when I wanted to know why the mother did not breastfeed the baby, I didn't ask --- *"Why don't you breastfeed your baby?"* --- but instead asked --- *"How does your breast milk flow?"*. This question would lead to the reason for not breastfeeding. Frequently, the informant asked me a question, not to obtain information, but rather to tell me something important. For instance, A mother of a 1-month-old asked, *"Should I start feeding rice to my baby?"* I realised that she did not really want the answer and I did not want to change the informant's knowledge base, so I did not reply to her question but asked, *"What do you think?"* instead. She said, *"The leaflet I got from the hospital says that we should feed rice to the baby when he is about 2-3 months old but my mother told me to start feeding him rice now. She said that rice would make the baby sleep well and grow well."*

Appreciating that audiotaping increases the accuracy of field notes and saves the time it takes to record observations, I planned to use a tape recorder while interviewing. However, I found that using a tape recorder often distracted the informant's attention. In addition, in conducting interviews with mothers of young children at their house the most common interrupters were the babies. Therefore, I decided to give up tape-recording. Whenever I found that an interview was becoming prolonged, and that I may have difficulties remembering full details of what was said, I would jot down key phrases that would help me to reconstruct the interview after withdrawing to the quietness of my house. In my experience several short interviews were more effective than one long one. The interview guide and some details from an actual interview are provided in Appendix 3.

Ethnographic records

According to Spradley (1979) an ethnographic record is a technique or device which assists in documenting the cultural scene under study, including field notes, tape recording, pictures, and artifacts. In this study the ethnographic records used were field notes, photographs and children's weight records.

Field notes

Field notes are another key to obtaining good-quality and useful data in field research as field notes include references to participants and their characteristics. They describe the setting, both in appearance and atmosphere, report the behaviour of the participants and factors influencing the behaviour (Smyth, 1981). The strategies of recording and field note formats are described by several authors (Schatzman & Strauss, 1973; Bogdan & Taylor, 1975; Spradley, 1979).

In this study, I first recorded my field notes in a notebook. These notes were extensive and reconstructed the interviews in Thai dialect used by the informants. Then the data were summarised on cards, both in English and Thai [see example of blank card in Figure 4.1]. Each period of interaction was complex and sometimes took more than one card to summarise. The description of one interaction was organised into a set of observations and/or interviews. When more than one card was needed to summarise an interaction, a number was assigned to the card to maintain the link between the data describing one observation or interview. These cards were used in the development of categories as they could be readily sorted. However, reference was also made, as needed, to the full field notes, so that the wider context was available for analysis. Examples of actual interviews and memos are provided in

Appendix 3, and examples of data analysis are presented in the following section of this chapter.

Location:	Date:	Category/Topic:	No:
	Time:		
Event/Persons:		Data:	
Note to self or observer comments:			

Figure 4.1: Field note format (card form)

The field notes were reviewed, corrected and completed at the end of every day. To prevent loss the completed field notes were typed into the computer when I visited the Faculty of Nursing at Chiang Mai University once or twice a month. During the initial period, I attempted to make notes on everything, even if it did not appear useful and relevant at the time in order to get a more accurate picture of the context in which the research data were obtained.

In my experience taking field notes or making a recording, to some extent, influenced the informant's behaviour. Therefore, I tried not to make detailed record during an actual observation. Instead I practised observing and memorising events. Then later, when I withdrew to my house I would recall the observations and record them as field notes.

Photographs

Cameras and photography are categorised as technical equipment in fieldwork and are used for sharpening the fieldworker's perception and standardising his or her recording (Pelto & Pelto, 1978). In this study, photographs of the people and events concerning infant feeding practices were also taken while conducting participant

observation. Before taking a photograph, I always asked for permission from the people involved because I intended to include some of the photographs in my report. As the village children rarely have a chance to have their photographs taken, the parents always consented and they were very pleased to receive copies.

Weight records

Although I did not intend to use a weight record as the tool for growth assessment in this study, I borrowed a set of scales from the health centre and offered to weigh the women and children I visited during the initial period and whenever I was asked to do so. This was beneficial for the villagers as none of them had scales at home. I assessed weight gain of the infants using the standard growth chart used by the health services throughout the country [see Appendix 4].

DATA ANALYSIS

Data analysis in qualitative research has been described by many authors. Wilson (1985) views qualitative analysis as the nonnumerical organisation and interpretation of data in order to discover pattern, themes, forms, and qualities found in unstructured data. Similarly, Burns and Grove (1987) state that qualitative data, in the form of words, are analysed in terms of individual responses or in terms of descriptive summaries or both. Data analysis is the process of systematically searching and arranging the interview transcripts, field notes, and other material in order to increase understanding of them and to enable the researcher to present what he or she has discovered to others (Bogdan & Biklen, 1982). Miles and Huberman (1984) indicate that data analysis is an ongoing process in qualitative research because analysis during data collection allows the fieldworker to cycle back and forth between thinking about the existing data and generating strategies for collecting new - often better - quality data. The following section provides details of the process of data analysis including examples of field notes and memos.

Analysis during data collection

In this study the process of data analysis began within a short time of the beginning of data collection. As mentioned above, the first interviews conducted with each informant began with survey questions for each specific aspect of the research question [see Interview Guide, Appendix 3]. From the initial interviews, data were then examined line by line to discover questions to ask in subsequent interviews. I recorded ideas, hunches, and questions in memos which helped me develop further questions.

Examples

Excerpts from the first interview with Naree [see Appendix 3] are given in italics.

Liew was born at the district hospital and we returned home the following day. I didn't feed her anything at the hospital.

Memo

I have heard from the women who gave birth at the hospitals in town [the University hospital and the Women's and Children's hospital] that they usually stay in the hospital at least 3 days. Why did Naree who gave birth at the district hospital return home the following day after delivery? Although I don't intend to look at the hospital service critically, I want to know what happens to women who give birth at the district hospital. What do they think about giving birth there? Have they been advised by the doctors or nurses [particularly about postpartum care and infant feeding] before returning home?

This information was coded as the hospital practices in relation to giving birth. Questions developed for subsequent interviews concerned the experience of giving birth at the district hospital and the advice given by doctors or nurses about herself and the baby.

I put her to the breast on the second day. The milk came in and she sucked well.

Memo

I notice that breastfeeding was delayed until 2 days after childbirth. What did the mother know about colostrum? Did the mother know what would happen to the baby if she started breastfeeding sooner or later than 2-3 days?

This information was coded as the initiation of breastfeeding. Questions developed for subsequent interviews concerned the woman's viewpoints and knowledge about the first milk [colostrum] and the consequences of initiating breastfeeding sooner or later than two days.

My breast milk has flowed well like it did when I breastfed Lek [her eldest son] and Lin [her second daughter].

Memo

The mother mentioned the previous experience of breastfeeding as encouraging her to breastfeed. What else influence her to do so? What does she think about breastfeeding?

This information was coded as the previous experience of breastfeeding. Questions developed for subsequent interviews concerned other factors which influence the mother to breastfeed and her attitudes towards breastfeeding.

I started feeding her rice [pounded sticky rice] when she was about a month old.

Memo

The baby was introduced to solid food [rice] when she was about a month old.

What does the mother see as the reasons of feeding solid food?

This information was coded as the introduction of solids during early infancy. Questions developed for subsequent interviews concerned the mother's reasons for feeding rice during early infancy.

Because each interview was short, it took several interviews with each key informant to cover the various aspects of a research question. As the study proceeded, field notes were clarified and the data were confirmed with the informant if they seemed unclear. Information was also obtained from general informants. Consistency between the key informants and general informants was used to verify and validate the information provided by the key informants.

Intensive data analysis

The data from each informant were sorted and classified into two major sets: the data related to foods for woman during pregnancy, postpartum and lactation periods; and the data related to breastfeeding, artificial feeding and weaning practices. Within each major set I divided the information into subsets. I assigned number and name to each set and subset. Then each subset of data was coded and analysed as instanced below.

Example

Excerpts from Major set 2, Subset 3.1 : Introduction of solid foods during early infancy

<u>Field note</u>	<u>Code</u>
<p>Sang's daughter Porn was introduced to pounded sticky rice mixed with mashed banana when she was 5 days old. Sang said, "<i>Porn slept well only for the first few nights after birth. Then she <u>cried a lot during the night</u>. So I fed her rice because <u>the elders said that she cried for rice</u>.</i></p> <p><i><u>I gave rice to Thoy, my first daughter, when she was about 1 week old too.</u></i>" She continued talking, "<i>After having rice in the morning, <u>Porn usually sleeps well until about noon. Then I have time to do some washing while she sleeps.</u></i>" Sang's mother also encouraged her. She said to Sang, "<i><u>Keep feeding Porn as much rice as she can take. Rice fills up a baby and will make the baby sleep well and grow well.</u></i>"</p>	<p>the belief that the baby cries for rice [the elder's influence]</p> <p>the experience of raising a previous child</p> <p>the need to do other jobs</p> <p>-</p> <p>the belief that rice fills up the baby and will make the baby grow well [the elder's influence]</p>

After coding as illustrated above, I recorded ideas, hunches and questions in memos. The following example is the memo written to accompany the above field note.

Memo

It is likely that various factors influence the mother to introduce solid foods [rice] to the baby early. The mother said that because the baby cried a lot at night she was told by the elders to feed rice. She also did so with her previous child. The baby's sleeping seems to go well with daily life in which the mother has to catch up with household chores. The grandmother convinces the mother by saying that rice fills up the baby and will make the baby grow well. What else do other mothers see as influencing her to feed rice to the baby early?

Having analysed all the data I reviewed them to try to identify themes. I was unsuccessful in the first attempt. I began to realise that the themes developed were being imposed because I was putting my own value on them, and had lost the *emic* data. I then rethought all of the data in terms of the women's experiences and how these things worked together to maintain the situation that way. In this way I eventually developed a better understanding as to what sustains beliefs and practices associated with infant nutrition, as will be presented in the concluding chapter.

ETHICAL CONSIDERATIONS

Fieldwork implies intrusion into other people's lives and that, in turn, requires effort on the part of the researcher to minimise the effects of the intrusion (Junker, 1960; Cohen, 1970; Middleton, 1970). In the general use of methods and techniques the researcher attempts to prevent any changes in people's behaviour and cognition that might occur as a result of the fieldworker's presence. The degree and type of change resulting from fieldworker's presence will vary depending on such factors as the size of the community, the degree of acculturation, community perceptions and attitudes, role identification, and the personality and actions of the researcher (Evaneshko, 1985). I was also aware that conducting an ethnographic study brought me into very close contact with the participants which can entail risking the rights of the human subjects. These rights include the right not to be harmed, the right to full disclosure, the right of self-determination, and the rights of privacy, anonymity, and confidentiality (Wilson, 1985). Therefore, the following precautions were also taken in order to protect the rights of those directly or indirectly involved in the research.

Firstly, the research proposal was approved by the Human Ethics Committee of Massey University. Secondly, the access to the participants was accomplished by obtaining permission from an appropriate person in authority at the provincial level, district level, subdistrict level and village level respectively. Thirdly, the nature, purpose, and consequences of the study to the extent that they could be known were thoroughly explained, in simple terms, to the participants. Furthermore, it was emphasised to the participants that while they may not directly benefit from the knowledge gained from the study, it was hoped that other people would benefit in the future. Fourthly, verbal consent for interviewing as well as consent for photographing and presenting the photographs of participants were obtained. It was emphasised to all participants that consent for participation could be withdrawn at any time without adverse consequences to them. Fifthly, before interviewing, the informants were told

that they were free to refuse to answer any question or stop the interview at any time, and that their names would not be used in any written reports of the study.

Furthermore, I was aware that no research can be done without some interference or disruption to the way of life of the people observed. Therefore, I attempted not to offer advice, suggestions or express moral disapproval. Most interviews were carried out when the participants were free from work and observations regarding infant feeding practices were conducted in such a way that daily life was not interrupted. In addition, participants were informed that except in the case of photographs presented, confidentiality would be maintained in reporting results and those identifiable from photographs would not be linked directly to the data presented in the report. Lastly, identifying data would be kept separate. Only the researcher and her thesis supervisors would have access to the original ethnographic material.

RECONCILING NURSE AND RESEARCHER ROLES

Being a nurse researcher in the community has several advantages. One of the most obvious ones was that being perceived as a nurse by the people to be studied enhanced my ability to gain entry. However, it was essential to make my role clear. That is, I was acting as a researcher and not as a nurse. Several authors (Schein, 1987; Field, 1989; Lipson, 1989) have spoken of both the advantages and the difficulties of separating the researcher and clinical roles. In their view it is difficult to separate practice from research in a clinical situation if the observer sees clients receiving care that is either less than optimal or potentially harmful. Schein points out that when ethnographers try to help clients with problems they have uncovered, they make themselves liable for malpractice. He suggests that while the nurse is in the ethnographer role, referral to an appropriate colleague is probably the safest approach. Below is a discussion of problems which I encountered while being a researcher in the field, and how I resolved felt conflicts between a nurse's role and a researcher's role.

Being a nurse researcher in the field, I had to take a researcher's role, not a nurse's role. However, where matters of health are concerned, it is very likely that one will have to give advice and make suggestions. Therefore, I had to judge from time to time how much to intervene in the local culture scene. Although I presented myself as a nurse not a medical doctor, the villagers called me 'mho' (a physician) as they were not able to distinguish the role of various health professionals. In Thailand, most health professionals are expected to take a curing role which among other things involves the prescribing and dispensing of medicines. During the initial period of my

fieldwork, I was often asked for medicine. I had to explain that the purpose for my living in the village did not include this task. Instead, I suggested that they seek medicine and treatment from either the subdistrict health centre or the district hospital. I also told them that I would not mind offering advice if they needed it. Some of the villagers seemed disappointed. However, during the subsequent visits these villagers seemed to understand my role and no longer asked me to give treatment, but asked me to visit instead. They would say, *"We just want to talk to someone who can tell us what we should do when we are not well. Having you visit us or just talk to us makes us feel better than having no one."*

Inevitably, in an emergency situation, I was forced into a professional role. One evening, my neighbour's son had a high fever and was vomiting. As it was the rainy season, I thought that it might be the early signs of hemorrhagic fever. The parents told me that they would give him an antipyretic medicine powder [aspirin]. I knew that such medicine could lead to excessive bleeding and cause hemorrhagic shock. Therefore, I decided to give him an antipyretic drug [paracetamol] from my own supply instead, and suggested that the boy should be taken to see a doctor. The following day at the district hospital he was diagnosed as having mild hemorrhagic fever. The doctor said to the father that the boy was lucky that he did not develop excessive bleeding. The child recovered a few days later.

In another situation the son of one of my informants, a 1-year-old boy, was looked after by his grandmother because the mother went out to work as a hired labourer. The old woman was 55 years old but she was very thin and looked malnourished. She always carried the boy on her waist and pre-chewed rice for him. While visiting one day I observed that she appeared very weak and coughed a lot. She told me that she had had a fever and cough for 2-3 days and had taken only an antipyretic powder to treat the symptoms. I thought that she might have pulmonary tuberculosis which would be harmful to her grandson. When asked whether it was possible to go to see the doctor, she said that she was not able to afford to do so. I decided to inform the staff of the health centre. Although home visits were part of their role, the only response I received was the suggestion that I encourage the woman to come to the health centre. When the woman went to the health centre the following day, the staff told her to go to the district hospital because she needed to be investigated by the physician. The woman said to me that she was afraid of being admitted to the hospital, so she decided not to go. Despite being sick, she still looked after the boy. The following week she told me that she was better than she had been previously because she had an injection from 'mho cheed ya' (injection doctor) [see Glossary, Appendix 1]. I observed that she still looked weak and unhealthy. Fortunately, the

boy had no signs of tuberculosis, probably because he was given a BCG vaccine [Bacille Calmette Guerin - a vaccine given to people in order to protect them from tuberculosis] when he was newly born. He sometimes had a runny nose and a slight fever. Perhaps, my hunch was wrong. However, this situation made me feel unhappy for many days.

LEAVING THE FIELD

It was very difficult to avoid sad feelings when leaving the field as I had lived in the village and had visited my informants and their families regularly for a considerable period (i.e., 10 months). I was overwhelmed with hospitality and friendship. I told them that I had to leave because I had to finish my studies overseas. Therefore, rather than abruptly leaving the field, I eased out of the field by coming less frequently and then eventually stopping altogether. I also told the villagers that I would visit them when I finished my studies. Many villagers expect me to come back. Some villagers said, *"We would like you to work at the health centre when you finish your study. We have never had a 'mho' like you before. You are very kind to all of us."* Many women said, *"We are going to miss you a lot. You have visited us at home for many months. We are happy to have you in our village. We hope you won't forget us and will come back to visit your children again when you finish your study."*

During the last visit with each informant I took a professional role by educating the women and their families as much as possible. I talked with the women about their own foods and infant feeding. For instance, I talked with them about the nutritious food available in the village such as mung beans, soya beans and peanuts.

SUMMARY AND CONCLUSION

In this chapter questions of how the ethnographic fieldwork was carried out in this study were addressed. The discussion began with a description of the pre-fieldwork activities and followed with a description of strategies of field entry along with illustrations of how the data were gathered and analysed during the phase of fieldwork. Ethical considerations, the experiences as a nurse researcher in the community, and the manner in which the researcher left the field were also presented. Discussion in this chapter provides the basis for future chapters dealing with the findings of the study.

PART TWO

STUDY SETTING AND FINDINGS

CHAPTERS FIVE, SIX, SEVEN AND EIGHT

INTRODUCTION TO CHAPTERS FIVE-EIGHT

Description of the study setting and findings constitutes Part Two of this thesis. Chapters Five and Six describe the sociocultural contexts of the country and the village in which this study was undertaken. Chapter Seven focuses on food beliefs and practices of women during pregnancy and following childbirth. In Chapter Eight the beliefs and practices relating to infant feeding patterns are described.

This study was undertaken in northern Thailand. The researcher has recognised the difficulties of translating interviews and other raw data from the Northern Thai dialect (colloquial) into English equivalent. In attempting to stay as close as possible to the informants' words and to translate faithfully, the descriptions will sometimes seem unnatural to a native English speaker. The meaning however should be clear in both languages.

KEY TO TRANSCRIPTS

In order to facilitate reading of verbatim descriptions the following conventions have been used:

" "	Verbatim descriptions and a word or phrase used as an invented or coined expression
' '	Thai words
(parentheses)	English meaning of Thai words in ' '
[square brackets]	researcher's comments, added to provide clarity or explanation
* * * * *	separates excerpts derived from different participants
Names	all names used to refer to villages and study participants are pseudonyms
p (pp)	page (pages)

CHAPTER FIVE

THE COUNTRY

As already stated, the aim of this study is to provide a detailed description of beliefs and practices associated with mother and infant feeding practices in rural northern Thailand. Such a description aims to enrich nurses' understanding, thereby guiding clinical practice and potentially improving the health and nutrition of infants and mothers.

Most food related practices do not develop haphazardly, but are guided by a set of concepts and beliefs. They are products of the environmental and cultural influences on how environmental resources, including food, are used by people in particular settings and situations. Many cultures have food prohibitions associated with pregnancy and childbirth. Infant feeding practices form an interrelated set of specific activities on which observation and discussion can be focused. However, they do not occur in a vacuum. In all societies, maternal choices among alternative infant feeding strategies are based on a number of complex factors, including environmental constraints, economic and political conditions, women's workloads and cultural beliefs. Thus, we need to examine the sociocultural context in which women's eating patterns and infant feeding occur in order to identify the influencing factors by which behaviours of women in relation to their own food and infant feeding are maintained.

This chapter, the first of two, will present the sociocultural context (social, political, economic, educational, religious, demographic and environmental context) of the country in which the study took place. In this chapter the description will centre on the social structure and the health care system of Thailand before proceeding in the following chapter to a detailed description of the village where the study was undertaken.

LOCATION, TRANSPORTATION AND POPULATION

The Kingdom of Thailand is located on the Indochina Peninsula and is bordered by Burma to the west, Kampuchea to the east, Malaysia to the south, and Laos to the north and the northeast.

Geographically, Thailand is divided into four regions:

1. The Central region, the basin of the Chao Phaya River, consists of low-lying plains. Most of the land is under cultivation except for the extensive metropolis of Bangkok, the capital of the Kingdom.
2. The North-Eastern region, is a low altitude plateau sloping down to the Mekong River. Its semi-arid climate, limited water supply and low soil fertility limit agricultural production.
3. The Southern region is a peninsula where rubber plantations, tin mining and fishing are the major economic resources.
4. The Northern region, drained by Chao Phaya tributaries, mountainous and forested, is the most sparsely populated area. Most of the land there is also cultivated. The study was undertaken in this region.

Thai is the national and official language. However, each region has its own local dialects. The dialect spoken by the people who contributed to this study is the northern Thai dialect.

In terms of transportation, Thailand has a modern and up-to-date transportation system which brings people from all over the country in touch with one another either by way of road, rail, air or water. During the past 20 years, the government has developed and expanded the country's transportation system in order to facilitate production and marketing and bring development benefits to provincial areas.

According to the Preliminary Report of the National Economic and Social Development Board, the population of Thailand was estimated at 55 million in 1989.

Bangkok, the capital, is the most crowded city of the country. The metropolitan area covers only 1537 square kilometres while the population is about five million. Almost all major domestic and foreign companies are located in Bangkok, as are government ministries and most of the country's leading educational, sporting, and cultural facilities. Therefore, Thais from all parts of the country come to Bangkok to find employment in the numerous factories and commercial firms and to be educated at its schools, colleges, and universities.

By contrast, provincial cities tend to reflect regional characteristics. In the northern region where this study is focused, Chiang Mai is both a coordination point for the agriculture of the area and also famous as a centre of ancient northern culture and tradition. Similarly, such northeastern cities as Ubon Ratchathani and Nakorn Ratchasima, while prospering on local development, are essentially provincial in all senses. According to the current statistical data, most of the population in provincial cities actually lives in rural areas (The National Identity Office, 1984). For example: Chiang Mai has a population of 1.2 million, but of this number only 104,910 people live in the metropolitan area; Ubon Rachathani has the population of 1.6 million, but of this number only 99,567 people live in the metropolitan area; and, Nakorn Ratchasima has a population of 1.9 million, but of this number only 89,261 people live in the metropolitan area.

Summary

The location of Thailand is suitable for agricultural production and most of the land is under cultivation. Nationally transportation has been developed to a level which does not obviously hinder food delivery and marketing. However, the population of Thailand is spread throughout its four regions and most of the people live in rural areas. It is probable that rural people do not fully benefit from public services including food delivery and health services, an aspect which is relevant to this study.

FORM OF GOVERNMENT

Since 1932 Thailand has had a constitutional monarchy with the king as the Head of State. The constitution of Thailand recognises that the King's sovereign power emanates from the people and is exercised in three ways. Firstly, the legislative power through National Assembly; secondly, executive power through the cabinet; thirdly, judicial power through the law courts.

The administration is divided into central administration and provincial administration.

Central administration: The central administrative structure is focused in the Office of Prime Minister and 14 ministries. The Cabinet, consisting of Ministers, exercises executive power in terms of legislation and is chaired by the Prime Minister who is acknowledged as the Head of the government. The Prime Minister's office [which ranks as a ministry] is largely concerned with formulating national policy. The Interior Ministry, to which all local administrators are attached, is the largest ministry.

Important departments include Local Administration, Accelerated Rural Development, Public Works, Town and Country Planning, Public Welfare, Community Development, Land, Labour, and the Police. Most other ministries are smaller and more homogeneous than the Prime Minister's Office and Interior Ministry.

Provincial administration: Administratively, there are 73 provinces in Thailand and each province is subdivided into subunits, namely : 'Amphoe' (district), 'Tambon' (subdistrict), and 'Moo ban' (village) respectively.

Provincial level: Each province (Changwat) is administered by a provincial governor or 'phuwa ratchakarn changwat', who is appointed by the King on the recommendation of the Interior Ministry. The provincial governor is the vital link between Bangkok, the capital, and the upcountry populace. Therefore, all government efforts affecting the nation are channelled through the Interior Ministry and the provincial governor must ensure that central government policies are carried out.

District level: At this level the district chief officer or 'nai amphoe', who is also a career civil servant appointed by the Interior Ministry, is responsible for carrying out government policies. He is directly responsible to the provincial governor. Always a heavy job, nowadays the district officer's job is more demanding than ever. Improved communications have opened up each district to development of agricultural demonstration centres, forest and irrigation projects, new industries and other manifestations of modern development. Having to be involved with all such projects has complicated district chief officer's once-simple daily routine. Therefore, he has several assistants called 'palat amphoe'.

Subdistrict level: At subdistrict level, neighbouring villages are organised into communes known as 'tambon' which consist of 2-28 villages. The headperson of a 'tambon' (subdistrict) is called a 'kamnan' who is elected from one of the village headpersons. The 'kamnan' is the chairman of a commune committee which often includes a government school headmaster, an agricultural extension worker, a community development worker, and/or a health department officer in charge of a local clinic. The committee is responsible for recommending which villages should receive new roads, irrigation and health services. The 'kamnan's main individual responsibilities are to maintain records and statistics, to help preserve peace, to assist in collecting taxes and to act as the intermediary between the district officer and all village headpersons in his subdistrict.

Village level: Officially, leadership belongs to the village headperson or 'phu-yai-ban', a position formerly exclusively held by males. Since 1983, however, women have also been elected to the position. The lowest ranking official in the government hierarchy, the village headperson is elected by fellow villagers to act as community representative to the government bureaucracy. Once elected, the village headperson can remain in that position until retirement at 60. Both 'kamnan' and 'phu-yai-ban' are only semi or quasi-official and receive a small stipend. However, they are entitled to wear official uniform.

As 75-80% of the total population of Thailand are farmers and live in rural areas, the Thai government has formulated a policy to improve their wellbeing and quality of life. In order to achieve this purpose, government officers are sent from the Ministry of the Interior [Department of Community Development] and the Ministry of Agriculture [Department of Agricultural Extension] to work with local people, in cooperation with primary school teachers and public health officers who already work in the community.

Summary

The form of government and administration operating in Thailand appear compatible with the implementation of health development policies and programmes. However, as there are a number of government policies and programmes, competition and conflict between them can be a problem. Therefore the success of individual programmes often depends not only on effectiveness of the administrators or leaders at each level of government, but also on resolving conflicting demands arising out of different policies and programmes. Health policies and programmes aimed at improving the health of mothers and children are a case in point.

ECONOMY

The currency of Thailand is the baht. In 1989-1990 the exchange rate of foreign currency against the baht was about 1US\$ = 25-27 baht or 1NZ\$ = 14-16 baht. The main sources of income are agriculture, mining, industries and tourism. Rice has been the country's largest single foreign exchange earner for well over a century, earning 22,510 million baht in 1982. Much of the country's territory of more than 500,000 square kilometres consists of rice fields yielding high quality long grain rice which is highly valued among the rice-consuming societies. The country is also a major world

producer of rubber and tin, both of which are to be found in the southern peninsula region of the country. In addition, the Indian Ocean seacoast and the Gulf of Thailand shoreline teem with marine life.

Available data indicate that the average growth rate of economy is at 7%-8% annually. However, an in-depth study of the distribution of development benefits makes it quite obvious that benefits have not been distributed widely enough in the expanding economy, giving rise to problems concerning income disparities between regions and between rural and urban areas. These keep widening. In spite of all the development efforts attempted so far, almost one third of the country's population remains in absolute poverty, and 90% of this population lives in rural areas (Office of the Primary Health Care, 1985).

Most people in rural areas, particularly in the northern and the northeastern part of the country, are farmers. Because most of the farmers are undereducated and have a poor knowledge of marketing techniques, the selling prices of agricultural products are set by the middle-men buyers. Recently, agriculture has become much more capital-intensive due to machinery costs, and increasing use of fertilizers and insecticides. Unfortunately, because the income from the agricultural products is much lower than the investment costs, most of the farmers must borrow money from money lenders. Consequently, farmers have to try to earn and repay money back as quickly as possible, so that agricultural products are often sold at unreasonably low prices in order that the interest and debts can be paid off. This is one of the main reasons why poverty is widespread in the rural areas.

Summary

In spite of consistent growth in the Thai economy, the majority of people do not benefit from this increasing economic growth. Most rural poor people are subsistence farmers and their income often does not cover outgoing expenses. For this reason, they are less likely to be able to purchase foods which are beneficial to their health, a point of particular relevance to this study.

EDUCATION

In ancient Thailand education was primarily the responsibility of religious leaders who linked the school system to monastic life. The 'wats' (Buddhist temples or monasteries) were the schools and the monks were the teachers. The educated elite consisted of males who served in the court and in the monasteries. Very few women were given the opportunity to attend school and become literate. With the advent of the 20th century, however, came the creation of widespread bureaucracy with a need for educated men to staff it. Young men, therefore, sought out monks to teach them the skills they would need to function as civil servants. Fortunately, King Rama V introduced a formal educational system as part of his modernisation efforts. Since then education has been increasingly more removed from the traditional 'wat' school. At present, the Thai education system has three levels: primary, secondary, and tertiary. Brief descriptions of each level are given below.

Primary level: The primary level is a first and fundamental level for compulsory study and is of 6 years duration. By law, everyone must enrol in this level. Basic language and literacy skills are learned during the first years of primary education. In addition, simple arithmetic, social studies, health education and creative activities are introduced as compulsory courses. From the statistical investigation conducted in 1983, it was reported that 99.4% of children, aged 7-12, attended primary school. This is partly because this level of education provided by the government is free.

Secondary level: Only approximately 43% of primary school children continue study in secondary school while the rest stay home to work on farms or otherwise to supplement family income. This is partly because poor families cannot afford school fees as well as other costs. The secondary level is a 6-year-programme, and most students who complete secondary school will continue their study further at the tertiary level.

Tertiary level: Tertiary education is available through three main types of institutions, namely, University, Teacher's Colleges and Vocational Colleges. Generally, the tertiary level provides four year programmes. At present there are 14 universities and 36 teachers' colleges throughout the country. Admission to tertiary level, in particular to universities, is possible only through a highly competitive entrance examination. Normally, various courses for Bachelor's degree are offered in all tertiary institutes but only universities offer a Master's degree or higher level education.

Due to economic constraints, most of the children in rural areas are rarely given the opportunity for further study at secondary and tertiary level. In fact, even at the primary level some families see themselves as unable to support their children's education. However, because of the government legislation, they must allow their children to go to school until they have completed the compulsory 6 years of schooling. On the other hand, there are some families who would want their children to undertake further study but due to financial difficulties they are unable to do so.

Summary

The present situation is that Thai people in rural areas are often poorly educated. With regard to the special area of health education, which is taught in primary school, it is mostly theoretical and is not carried over into everyday life. Therefore, many preventable diseases and health problems are still found. This includes childhood malnutrition, one of the major health problems, and of particular importance to this study.

RELIGION

Buddhism is the national religion. The majority (95%) of Thais are Buddhists. However, there is total religious freedom and all major religions are to be found.

Buddhism plays an important role and is an integral part in the life of the Thai people. Arts, literature, education and the social system are strongly influenced by Buddhist values. The 'wat' (Buddhist temple or monastery) has many functions in Thai society, particularly in rural areas since the majority of Thailand's 27,000 monasteries are located in the countryside and most villages have their own 'wat'. For the Buddhist, it is believed that 'dhana' (offering), such as food offering to monks, will bring happiness to one's life, especially in the next life. Every morning villagers offer food to monks as they walk around the village and are in turn blessed for such acts of kindness. On the major Buddhist holy days which are national holidays, it is customary for Buddhists to go to the 'wat' to offer food to monks and listen to their teaching.

In rural villages, the 'wat' has been used not only as a centre of religion but also as a centre for community activities. Each 'wat' usually has a meeting hall where the villagers will come to discuss problems and share information and also there is a large playground for recreation and other community activities. The playground may be

used on various occasions, such as a meeting of government officials and villagers or for parliamentary elections. Health officials may also use the playground area for vaccination of the local people. Moreover, during the festival seasons, the 'wat', has a very important role to play. Fairs are organised within the monastery compounds, stalls are set up to sell goods of various types. It is normally a good opportunity for the villagers to express their common social and cultural membership in the 'wat'.

In addition, certain Buddhist monks who specialise in healing or producing cures for certain diseases such as sinusitis, cancer, paralysis or even drug addiction, act as doctors to cure illnesses by means of herbal and folk medicine. Buddhist monks do not treat only physical illness, but also provide essential services for those who feel unhappy, suffer nervous disorders, or undergo mental breakdown.

Summary

Generally religion, particularly Buddhism, plays an important part in people's health both physical and mental. The 'wat' (Buddhist monastery or temple) has an important place in supporting people and so contributes to community health, a point which is relevant to this study.

FAMILY STRUCTURE AND RELATIONSHIPS

The family structure throughout Thailand is changing dramatically. The traditional structure of large families has changed to a typical pattern of two parents and only two children. The statistical data shows that the population growth was reduced to 2.7 % in 1976 and to 1.9 % in 1983 (The National Identity Office, 1984). The cause of this change has been the success of the family planning programme policy in both the rural and urban settings. The Thai family is typically an extended one in which father, mother, children, grandparents, cousins, or even an uncle or aunt, may all live together in the same house or compound and this has not changed as a result of family planning.

In a Thai family, children are treated affectionately. Boys are expected to be actively involved in community and religious life, while traditionally girls are expected to help with housework. One of the prime responsibilities placed on children is that of taking care of parents in their old age. This form of social security is a prominent feature of the Thai concept of the family. There is no feeling of being inconvenienced by caring for aged parents. Therefore, unlike old people in many other cultures, who live out

their last years lonely and rejected, Thailand's aged see their former devotion to their children reciprocated and actively help in ushering their grandchildren and great-grandchildren into responsible adulthood. In rural areas, where subsistence farming is a common practice, the husband generally works in the paddy field preparing the land for planting rice and other crops and the wife is usually fully occupied with household chores and caring for young children. However, when it is time to transplant or harvest, the family works together and the young children are left to stay with their grandparents who lovingly tend, comfort and, sometimes, indulge them.

From earliest childhood, every Thai learns a code of behaviour for relating to those around him which he will find perfectly viable when, later, he ventures out of his home to deal with the hierarchies of school, the office and the government. He will even use words connoting members of the family for people who are not in fact related to him at all. The young are always taught to respect and obey the elders. Therefore, the young often do what they are told to do even though they sometimes disagree with the old.

Summary

Although the structure of Thai family is changing, family relationships are strong. The traditional kinship system provides support for all members of the family and is therefore beneficial for the people's health. The old and the young are cared for well. However, the custom of respect and obedience can sometimes be a barrier to introducing new ideas and knowledge. This may affect health care and practices, an aspect which relates to this study.

FOOD AS PART OF CULTURE

Rice is a staple food in the Thai diet. The major portion of Thai cuisine is highly spiced and hot with chilli. However, it also aims at being a harmonious blend of the spicy, the sweet and the sour. Since diet is an integral part of culture and food selection is influenced far more by cultural factors than by nutrient content, Thai foods vary from region to region and there are local specialties. For example, glutinous rice is more popular than steamed rice in the north and northeastern regions and exotic dishes like frog curry are not uncommon. As for the poor, main dishes are considered as something which can make rice more palatable, so that a large amount of rice can be consumed.

According to the 1986 Thai Food Habits Project, food habits and food beliefs have been recognised as a major determinant of nutritional problems in Thailand where agricultural products seem to be adequate and are even exported to the world market.

Apart from food habits and food beliefs, food advertising also has a great impact on what Thai people eat, and therefore on their nutritional status. The food and beverage business in Thailand can be very profitable for the producer. Food can be advertised easily by means of newspapers, posters, radio and television. Although the Food and Drug Organisation is set up to control the quality of food and drug production, its span of control cannot cover the whole country due to the lack of officers and low penalty fees. A lot of food items which have little nutritional value such as snacks and candy are usually mixed or coated with bright and harmful colours in order to attract the customer, especially children. Most people prefer soft drink and beverages other than milk because of the advertising influence. Even though breast milk substitutes are not allowed to be advertised on radio or television, other milk products such as evaporated milk can be advertised as a supplementary food for adults. Thus, a large number of poor and low educated mothers wean their babies from breast milk by using sweetened condensed milk instead of infant formula.

Medicine and pills can be sold widely without a physician's prescription. Due to the influence of advertising and lack of health education, many people think that some kinds of medicine, such as vitamin preparations are more necessary than food. Therefore, they spend a lot of money purchasing them instead of food. For instance, if a child is underweight, he is always given a vitamin preparation and antihelminthic drug rather than an appropriate nutrient.

Summary

Food consumption of Thai people is influenced by food habits, food beliefs and advertising. Thus, a large number of Thai people may not receive adequate nutrition despite the availability of sufficient food. Mothers and young children are the most vulnerable groups, an important aspect which prompted this study.

HEALTH CARE SYSTEM

In this section, the national health care system and services will be outlined. Emphasis will be placed on the primary health care programme which has been implemented in order to achieve the World Health Organization goal of "health for all by the year 2000".

In Thailand, health care services are provided through several organisations. People can choose to go to the hospitals run by the Ministry of Public Health, the Ministry of the Interior, the Ministry of Defence, the office of University Affairs or the private hospitals and clinics. Each organisation has its own policy and sphere of activity. However, the Ministry of Public Health acts as the coordinator in order to carry out the government public health policy.

Although national economic and social development plans have been promulgated since 1961, the political and administrative mechanisms in the past were not favourable to health improvements. Public health policy has generally not received a high profile, and insufficient funds were allocated for public health and welfare. Due to low funding, most of the money has tended to be spent on routine work, especially on curative actions. Moreover, the ratio of health professionals per head of population in Bangkok, the capital, was, and still is, much better than in other provinces as shown in Table 5.1. Hence the majority of people, especially the rural poor, have less opportunity to receive good health services. In addition, inadequate health education has left these people poorly equipped to prevent sickness and promote their own health. After the assessment of the fourth plan which ended in 1982, the government realised that it must concentrate more on tackling the problem of social inequality, unemployment, and the public health policy. Therefore, in the public health policy of the five year plan (1982-1986), basic minimum need (BMN) indicators were developed and used for measuring the success of the programme in order to improve the quality of life for rural poor people. Indicators concerning the maternal and child health status were also laid down. Moreover, the analysis of the problem also revealed that one of the most important causes of the remaining health problems was the lack of people's participation in the health delivery system. Hence the decision makers in the Ministry of Public Health decided to have selected people from the community helping to carry out some of the health service activities. Consequently, the Primary Health Care programme has been modified and expanded under the five year plan.

Table 5.1: The ratio of health professionals per head of population in 1986.

Source: Suroj, P. (1986). Public health development: Policy, planning and evaluation. Bangkok: Krungsiam. (in Thai)

Health professional: population	overall Thailand	Bangkok	other provinces
1 physician	5,564	1,407	8,799
1 dentist	37,745	6,589	91,461
1 nurse	1,286	443	1,684
1 pharmacist	15,690	2,109	78,968
1 midwife	8,268	15,015	7,824

Total Population: 52 million

Structure of the national primary health care delivery system

According to the Office of the Primary Health Care (1985), the national primary health care delivery system can be categorised into four levels: Office of the PHC; Provincial Public Health Office; District Health Office; and Health Centre and Midwifery Centre.

Office of the PHC: This is located in Bangkok and is involved in administration and policy.

Provincial Public Health Office: One of these units operates in each province throughout the country. It consists of the technical and health service promotion office, provincial hospital and district hospitals.

District Health Office: This is also an operational unit which is responsible for public health at the district level. Every district should have its own district hospital which is responsible for primary medical care.

Health Centre and Midwifery Centre: This is the primary health care unit within a subdistrict (Tambon). Its responsibility is more or less the same as the district health office but on a much smaller scale. This unit consists only of a nurse, a midwife and a health worker.

Essential elements of primary health care in Thailand

The essential elements stated in the PHC programme (Office of the Primary Health Care, 1985) are:

- Education concerning prevailing health problems and the methods of preventing and controlling them
- Promotion of food supply and proper nutrition
- Maternal and child health care, including family planning
- Adequacy of safe water supply and basic sanitation
- Immunisation against major infectious diseases
- Prevention and control of locally endemic diseases
- Appropriate treatment of common diseases and injuries
- Provision of essential basic household drugs for the community

The particular study is relevant to two of the essential elements, in its focus on the promotion of proper nutrition in mothers and infants. With respect to the nutrition situation, Primary Health Care activities currently include: identification of malnourished children through a programme of weighing the under-fives; education of the community, especially of mothers; supplementary feeding programmes to cover the severely malnourished children by using local food sources; and generation of a "village nutrition fund" (Office of the Primary Health Care, 1985; Gopalan, 1987). While it is perhaps too soon to assess the impact of the new strategy on the nutritional situation, the preliminary reports do seem to indicate a significant decline in severe malnutrition in under-fives in some villages (Gopalan, 1987).

Primary health care workers (VHVs and VHCs)

According to the concepts of primary health care, the PHC workers should be the people within the community who are interested in health matters and willing to help their fellow villagers. Therefore, two levels of such village volunteers, village health volunteers (VHVs) and village health communicators (VHCs), are now selected for each village. VHCs are responsible for a cluster of 8-15 households while the VHVs are responsible for the whole village. VHCs' functions are focused on health education [prevention and promotion] and dissemination of health information in the village. The VHVs have the same functions as VHCs but they have additional duties in the curative area as they have learned how to manage simple accidents or injuries as well as the common diseases occurring in their own communities. Generally, the VHCs and the VHVs will be supervised by either some or all of the supervision teams

from the subdistrict, district, and even provincial levels. However, it was found that only 41% of primary health care workers received regular supervision while an additional 30% received only irregular supervision (Gopalan, 1987). Moreover, VHVs and VHCs indicated that in their opinion the supervision was used only for communication of orders and the collection of records, but that it seldom provided knowledge and techniques for problem solving.

Summary

The health care system in Thailand, and the Primary Health Care Programme in particular, is dependent largely on the politics of the government, especially in terms of the budget. Because the budget is always limited the shortage of trained people, equipment and supplies continues. In rural areas, Primary Health Care Workers at a village level are key persons in carrying out health programmes. Therefore, the effectiveness of health programmes is dependent on whether these PHC workers are trained and supervised adequately. This is also true for health programmes aimed at improving the health and nutritional status of mothers and children, a point which is relevant to this study.

MATERNAL AND CHILD HEALTH SITUATION

There are several basic health needs and major health problems among Thai mothers and children. The maternal and child health project, included in the National Socioeconomic Development Plan, was aimed at reducing perinatal morbidity and mortality as well as preventing childhood malnutrition and promoting child health. However, it is beyond the scope of this chapter to discuss all of the maternal and child health problems. This section will focus on the nutritional situations of women, infants and preschool children.

According to Gopalan, Thailand does not have a strong system for national nutrition monitoring and surveillance. There have been no well organised national diet and nutrition surveys carried out at periodic intervals, based on a proper sampling frame and using standard methodology. Therefore there is little reliable information regarding the differences in nutritional status between different population groups within the country, and in the same groups between different points of time. Without such surveys there can be no carefully compiled survey data either on changing trends with respect to nutritional status or even with regard to the precise magnitude of the problem at a given time. What is available is the results of nationwide small-scale ad

hoc surveys and assembled field observations which provide some information but have obvious limitations with respect to comparability and accuracy.

Nutritional situation of pregnant and lactating women

In Thailand, a widely used indicator for the nutritional status of pregnant women is the weight increment during pregnancy. However, since the average coverage of ante-natal services in Thailand was approximately 30% (The Social Indicator Working Staff, 1979), the use of weight gain as an indicator during pregnancy has been very limited. Dietary surveys of pregnant women in the northeast region revealed that their energy intake averaged 2000 kilocalories which was approximately 80% of daily energy requirement (Chaiyaratana, 1979; Chandrapanond et al., 1972). Tuchinda (1980) indicates that about 30% of Thai pregnant women are estimated to be anaemic and that anaemia in pregnant woman is related to low birth weight and preterm births. Tontisirin and Winichagoon (1984) state that mothers in poor rural areas have been found to be chronically undernourished prior to pregnancy. Many of them are pregnant at a young age while their growth is still continuing, their nutritional status is not improved during pregnancy and can be made even worse due to unsound food beliefs and taboos.

The nutritional status of lactating women can be assessed by different methods such as a 24-hour food recall, milk production, and growth of breastfed infants. Unfortunately, information on the dietary intake of lactating mothers is rather limited. However, several studies reveal that during the post-natal and lactation period Thai women, particularly in rural areas, observe food taboos due to traditional beliefs (Sawangdee & Isaraphakdi, 1989; Research Institute of Nutrition, 1986). In terms of milk production, the rural northeast Thai mothers produced only 585 ml/day (Dhanamitta, 1979), whereas milk production of a healthy mother in Sweden has been estimated at 850 ml/day (Waterlow & Thompson, 1979).

Protein energy malnutrition (PEM) in Thai pregnant and lactating women is still prevalent, especially among poor rural mothers. It has been estimated that 30-50% of this population group are malnourished. Though this estimation has no firm supporting data, it corresponds with the prevalence of PEM in infants and preschool children (Tontisirin & Winichagoon, 1984).

Nutritional situation of infants and preschool children

During 1982-1986, according to a publication of the Department of Health, nearly 51% of Thai children under 5 years suffered from PEM. Since preschool children constituted 16% of the Thai population [48 million in 1982], they numbered about 7.68 million. Thus, there were as many as 3.9 million preschoolers suffering from various degrees of PEM. Although the overall trend has improved as reflected in Table 5.2, figures indicate that the Northeast and the North are regions where malnutrition problems are recorded as higher than in other regions. As the actual details of the survey on which this estimate is based are not available, and the report states that the nutrition survey was done by village health volunteers, Gopalan (1987) argues that the validity of the estimate may be open to question in the absence of a proper sampling design as well as the accuracy of the records. He suggests that it is quite possible that the more serious forms of PEM have, in fact, been largely eliminated in Thailand.

Table 5.2: Prevalence of protein energy malnutrition among preschoolers and percentage of malnutrition cases recorded in 1982 and 1986. (Nutrition Section, Ministry of Public Health & Health Policy Centre, Mahidol University)

	1980	1982/83	1983/84	1985	1986
<u>Degree of PEM</u>					
normal	47.0	52.3	64.8	71.9	
1st degree (mild)	37.7	34.1	28.5	24.0	
2nd degree (moderate)	13.1	11.7	5.9	3.9	
3rd degree (severe)	2.2	1.9	0.8	0.2	
Central	-	36.7	-	-	10.9
North	-	50.8	-	-	24.8
Northeast	-	56.7	-	-	30.0
South	-	43.5	-	-	20.9
East	-	36.8	-	-	14.5

Summary

Health policies and programmes aimed at combating malnutrition have been implemented throughout the country for several years. But moderate malnutrition is still a major health problem among Thai mothers and children, particularly those who live in the North and the Northeastern regions. This situation prompted the researcher to conduct the present study.

SUMMARY AND CONCLUSION

This chapter contains descriptions of the sociocultural structure, health care system, and maternal and child health in Thailand. Each of the Thai socioeconomic and cultural systems mentioned above has an impact on the health of people. The political system is a powerful determinant of health care programmes. The economic system is a significant determinant of the quality of health care as well as the quality of people's lives. The poorer the people are, the less chance they have to receive good health care. The education system itself is determined by the political and economic system. The level of education of the people, in turn, influences their health as the more they are educated, the more they seek information in order to have good health. As for religion, it can be said that Buddhism has a positive impact on the people's health, particularly mental health. The Thai family structure and kinship system are beneficial for the people's health, particularly the old and the young, in terms of support and assistance. Cultural beliefs associated with food are a major influence of the nutritional status of the people, which in turn, directly affects their health.

In Thailand, as in other developing countries, a Primary Health Care Programme has been implemented to achieve the goal "health for all by the year 2000". However, major health problems including protein calorie malnutrition, are still found among childbearing women and young children.

In the following chapter, the sociocultural context of the village in which the study was undertaken will be described.

CHAPTER SIX

THE VILLAGE

In Chapter Five social, cultural, political and economic aspects of Thai life generally and the prevailing health care system were described. In this chapter details of physical features, environmental characteristics and the social structure of the village where the study took place are presented. In this way readers will be able to understand the health and nutrition of mothers and children in their wider contexts. Information is included on the location of the village and transportation services; history of the village; neighbouring villages; community leadership; religious aspects of village life; villagers' occupations and economy; education; housing, family and social relations; food availability and accessibility; people's daily nutritional intake; women's work and responsibilities; childrearing practices during the first few years of life; health problems and disease prevalence; and the available community health services. Fictitious names for persons and places have been used throughout the thesis in order to protect the identity of those involved in the study.

These areas influence the lifestyle of the villagers including food behaviours of mothers and infant feeding practices, thus affecting the nutritional status and health of mothers and children. With this understanding, health professionals, and community health nurses in particular, are able to plan interventions and strategies to meet the health needs of the people, represented by those in this study.

LOCATION AND TRANSPORTATION

Location is important to the health status of the people because if the village is not able to produce crops and other home grown products people may experience a lack of food. Transportation must also be available if villagers are to sell their products and buy foods they cannot produce themselves. Further, transportation allows people to keep contact with the outside world. Ban Dee is a large village located in the Intakin subdistrict, Mae Tang district, Chiang Mai province, northern Thailand.

Geographically, Ban Dee is in a valley, surrounded by rice fields, swamp and low hills and the land is not all flat. An irrigation canal passes along the length of the village. The big dam which is located about 7 km from the village, supplies water to many districts in Chiang Mai Province including this village. It also helps prevent flooding in Mae Tang district every year. There are four main roads and 15 small lanes in the village. The geographical layout of the village is shown in Figure 6.1. The area around the temple is the trading area and the centre of the village. A broadcasting chamber used for disseminating news and announcements throughout the village is also located in the temple.

The subdistrict health centre and the district hospital are about 1 and 2 km from the village respectively. They are easily accessible by most villagers. The district centre, where the district office, the district health office and the district market are situated, is about 4 km from the village. People go from the village to the district centre either by minibus or motorcycle.

Mae Tang district is 41 km from Muang district which is the main town or centre of the province. To go from Mae Tang district to Muang district, people use either motorcycles or minibuses which commute between Mae Tang district and Muang district on highway No. 107. The minibus service is usually available every 15 minutes from 5am - 6pm. The fare for a round trip is 18 baht (NZ\$ 1-1.25) which most people can afford. In addition, one villager in Ban Dee offers a minibus service directly from the village to the big market in the main town. The traders, who buy goods from the market in town and sell them in the village food markets, make this trip every day.

Summary

The location of the village and the transportation services available facilitate trading in foodstuffs and are not factors that elsewhere may reduce the availability of food.

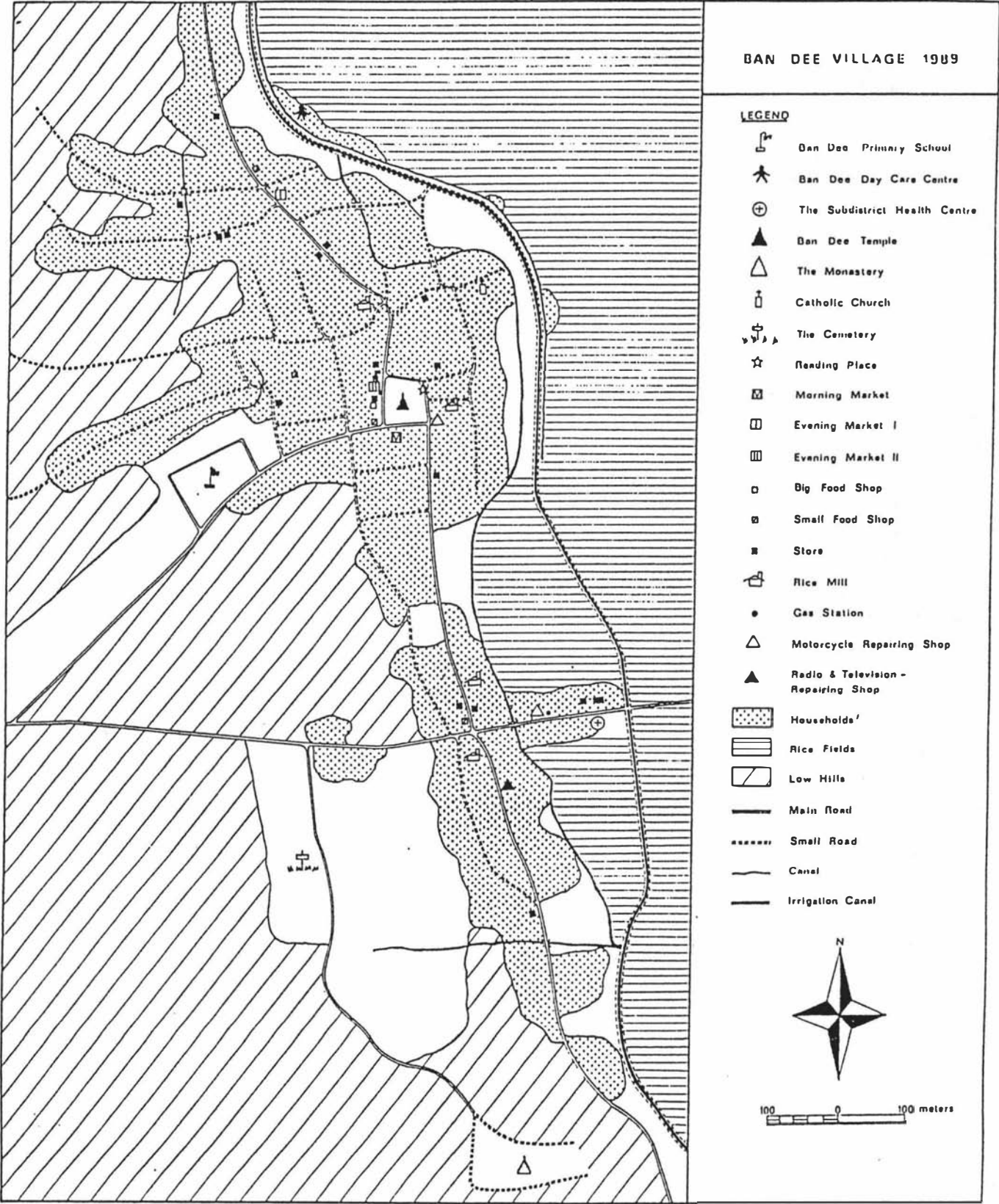


Figure 6.1: Geographical layout of the village

HISTORY OF THE VILLAGE AND ITS POPULATION

The history of a village allows readers to know how and when a village has been established and to appreciate its particular character and special features. In the past, rural Thai people tended to settle where they were able to grow crops and where there were abundant natural food sources. According to the village elders, Ban Dee is at least 80 years old. Some of the 80-year-olds were born here after their parents had moved from another town. When they were young, this village was small but rich in vegetation. At that time, the villagers helped each other to cut down the trees and build their houses. They acquired land very cheaply, or in some cases, without payment. Several years later, many people migrated to live in the village to cultivate 'miang' (tea leaves) on the hills and grow crops in the fields. The village has become larger since then. According to the elders, the land now costs at least 50 times more than it did when they were young. Many families, therefore, sell their cultivating land and work as field labourers for their landlords who are not in the village.

Population density and movement are useful social indicators of each society. According to the household survey conducted in August 1988 by the staff of the village headman, Ban Dee has 540 households and a population of 1028 men and 1012 women. Of this number, 85 are children aged under 5 years old. According to the records available at the headman's office, the population movement was not high. For example, from January 1989 - January 1990, there were 15 requests for new house registration numbers but the actual number of people who moved in was not available, and neither were the reasons for moving in declared. Fifty-five villagers moved out and the reasons for moving out were not mentioned in the record. The researcher was told by the villagers that some moved out after getting married and some landless people migrated to Bangkok and other provinces. Apart from the official population movement record, many young and unmarried people have moved from the village to work in Bangkok or other provinces but their names still appear in their parents' house registration. According to their parents, those young people prefer doing factory work to working in the fields.

Summary

The history of the village has indicated that people moved into Ban Dee because the village was suitable for agricultural production, the main occupation of the rural Thai people. Migration of people from the village was mostly because of preference for other type of work rather than because of the inability of the land to sustain them. Accordingly, food shortages should not be a major cause of childhood malnutrition, a point which is relevant to the study.

THE NEIGHBOURING VILLAGES

A group of villages located in the vicinity of each other allows villagers to have social relationships with a wider group of people. In this way their ways of life may be influenced by each other. This may include food behaviour, and infant care and feeding beliefs and practices.

People in Ban Dee and its neighbouring villages often participate in social activities such as a temple fair or a funeral ceremony. Such activities allow them to get to know each other. Inter-village social gatherings provide opportunities for young people to develop relationships and get married later on. In addition to social activities, neighbouring villages play a part in the daily life of the villagers in Ban Dee in a number of ways.

Ban Yen is an adjacent village, about 1 km north of Ban Dee. Although it is smaller than Ban Dee, Ban Yen has a large private day-care centre which many young children in Ban Dee attend. Many women in Ban Yen work as traders at the Ban Dee food market. Ban Hut is another adjacent village, about 1 km south of Ban Dee. Ban Hut villagers who work as field labourers usually seek a job in Ban Dee because there is more employment there than in their own village. Ban Nang is about 2 km southeast of Ban Dee. The village has a large private day-care centre, second to that of Ban Yen. Many young children from Ban Dee, particularly those who are less than 1 year of age, attend this day-care centre.

Ban Choo is about 4 km southeast of Ban Dee and is a trading centre in this subdistrict. There is a big day market where local products from various villages are traded. Many villagers from Ban Dee come to buy and sell their goods in this market. One villager in Ban Dee who works as a fruit-seller told the researcher that she made a good profit from selling fruit at Ban Choo market as the customers come from many villages and fruit was usually sold out quickly. There are also large stores that sell motorcycles, sewing machines, electrical equipment, farming tools and fertilizer. The prices tend to be higher than in the main town, but goods are often sold on credit which is convenient for the villagers. Ban Choo has a private clinic which is usually open outside the official hours. Many villagers from Ban Dee come to see the doctor at this clinic.

Summary

The way of life of villagers in Ban Dee is influenced by the people of their neighbouring villages in a number of ways. There is considerable interchange between different villages in terms of trade, agricultural and other work, and social gatherings. Day-care services available in neighbouring villages play a particularly important role in childrearing during infancy and preschool periods, an aspect which is relevant to the study.

COMMUNITY LEADERSHIP

At the village level, the success of health policies and programmes is largely dependent on the participation of community leaders, the village headman and his staff in particular. These leaders act as coordinators between the government officers and the villagers, and they have authority in running health programmes. The discussion which follows is focused on the role and activities of the village leaders in relation to the health and wellbeing of villagers.

The present village headman of Ban Dee also acts as the headperson of the Intakin subdistrict. The villagers, therefore, call him 'kamnan' (the headperson of a subdistrict). He has held this position for more than 10 years. As Ban Dee is a large village, two assistant headmen are appointed by the district officer on the recommendation of the headman. The village is subdivided into three main parts: central, south and north. The headman is responsible for the central part and the two assistant headmen are responsible for the other two parts. According to the villagers, the headman was nominated for election because he was widely known as a business man and had a good relationship with the district officers. However, many villagers said that the headman was not as good as they expected he would be and relied too much on his staff to carry out the work.

The headman, himself, said, *"This village is very big. The villagers always expect me to help them with everything, which is impossible. The district officers also expect me to do many things. But the salary I get from being a headman is not enough to feed my family. I have to run a business to support my family. So I rarely have time to stay home. However I have tried to do my best."* According to the headman, he planned to call a village meeting once a month. However, during the 10 months of the

researcher's fieldwork, there were only four meetings. In each meeting, the headman was the only one who spoke and announced what he was told by the district officers. Only a few people asked questions or shared ideas.

There were many examples provided to the researcher as to why they were dissatisfied with the village headman. One retired school teacher said, *"I have lived in Ban Dee for 30 years but it seems that the village has not been developed as it should have been. 'Kamnan' is always busy with his business. Many lanes in the village need reconstruction because they are muddy in the rainy season and also dusty in summer. Actually, the villagers are ready to do it but someone is needed to organise it. Some of my neighbours said to me that they are willing to do it but they dare not ask other villagers to help them. If I were 'kamnan', I would ask for cooperation from the villagers to do it."* Another example was one old villager who said, *"Ban Dee is a big village but it lacks unity. 'Kamnan' is not a good leader. He spends most of the time on his business and seldom makes a visit in the village. Even the funeral ceremonies, he rarely attends."*

Many instances of the headman's failure to attend to his duties in relation to health programmes were cited. For example, one of the VHCs said, *"I and 23 other villagers were elected to be VHCs a few months ago, but no one dares to do the job because 'kamnan' has not yet announced in a village meeting that we have been elected to be VHCs [see pp 79-80]."*

The headman was also perceived as unapproachable by many in the village. An example was provided of a poor family who had lost their subsidy card [see Glossary, Appendix 1]. The husband asked for a new card from the health centre because his wife was due to give birth in the following month. The staff of the health centre told him to ask the headman to accompany him to the health centre and provide the necessary recommendation so that the card could be issued. But he said, *"I dare not ask the headman because he is always busy. I don't think he would have time to accompany me to the health centre."* It was perhaps fortunate that his wife gave birth at the University Hospital where the subsidy card is not necessary.

There were also suggestions that the headman was misusing his power and did not always act in the best interest of those in need. An example was given of another family who also had a problem concerning their subsidy card. The third daughter in this family was not included on the card. The girl was malnourished and often sick. One day she had a high fever and rapid breathing and the mother took her to the district hospital. The girl was given an injection to treat pneumonia and the mother was told to

take her for a follow-up investigation. The mother explained to the researcher, *"I can't afford to go to the hospital any more. Today I paid 70 baht (NZ\$ 4.7-5.0) for the medicine and we haven't got any money left. My husband has gone to see 'kamnan' and asked why our youngest daughter was not included on the subsidy card. 'Kamnan' told him that we had to wait until next year. I don't understand why we had to wait but I dare not ask 'kamnan'. He should have helped us because we are poor and we don't know how to deal with this sort of problem."*

In addition to the attitudes of the villagers, a staff member of the subdistrict health centre said, *"Ban Dee is a large village but the people are not very united. 'Kamnan' does not pay much attention to his duties. A few months ago, I asked him to announce to the villagers about the appointment of the VHCs and the VHV but he did it only last month."*

During the 10 month period of fieldwork, the researcher never met the government officers from the Department of Community Development and the Department of Agricultural Extension who worked in this subdistrict. These officers were supposed to visit and advise the villagers on how to improve their wellbeing and quality of life. When asked about these officers, the headman said that they rarely visited Ban Dee because most villagers were able to help themselves. However, many villagers said that they still needed advice. In particular, they needed an update on information about the crops they should grow each year.

Another example of the community leaders' initiatives was a "housewives group", an activity widely established in most rural villages. According to some women, the Ban Dee "housewives group" was set up 3 years ago. The headman's wife was appointed as the chairperson. The group performed activities such as demonstrating how to make soya bean milk. It was supervised by the staff from the subdistrict health centre and the officer from the Department of Community Development. Unfortunately, several months later, some members were accused of stealing cooking equipment. There were suspicions that the headman's wife had misappropriated some of the funds. The group has gone out of existence. Some female villagers who work as schoolteachers at the village primary school said, *"We did try to form the "housewives group" again but it seemed that not many women were interested in it. The headman's wife did not cooperate either. We were also busy with our pupils. So we had to give it up."*

Summary

The present situation is that the community leaders, the village headman and his staff in particular, neither actively participate in running health policies and programmes nor cooperate well with the government officers in order to improve the villagers' wellbeing. The villagers usually defer to these leaders and rarely ask for assistance. As a result mothers and children do not fully benefit from the programmes aimed at improving their health and nutritional status, an important aspect related to the study.

RELIGIOUS ASPECTS OF VILLAGE LIFE

Religion usually helps to unify and integrate the people's lifeways. The majority of people in Ban Dee are Buddhists. Only about 30 out of 540 households are Christian. There are a number of mixed marriages between Buddhists and Christians, but they participate in their partners' religious activities without any problems. The Christians join the Buddhists activities such as temple festivals. On Christmas day, Christians in Ban Dee and adjacent villages gather at the church and provide an entertainment programme for children. On this occasion, every child in Ban Dee receives Christmas gifts, sweets and special foods.

'Wat' Ban Dee or Ban Dee temple is not only the religious centre but also the social centre of the community. A village meeting is usually held at the temple hall. Public health activities such as vaccination programmes are conducted within the grounds. Many villagers, particularly the poor, benefit from the monks and the religious ceremonies. On the Buddhist holy days, especially the major ones, every household prepares special food to offer to the monks who live at the temple (Plate 6.1). Since there are about 500 households, food that is offered is much more than the monks could eat in one day. Some of the food is set aside for later use but the rest is given to the poor which helps them survive for many days.

Some schoolboys stay with the monks where they have more food to eat than they would at home. Before going to school in the morning, these boys accompany the monks while they walk around the village and receive offerings of food from the villagers, and they help the monks carry the food back to the temple. In the evening, they help to tidy up the compound and the buildings. As their parents are not able to afford to assist them further in their secondary education, most of them are prepared to be ordained after finishing primary school so they will be able to continue their education informally.



Plate 6.1: Food offering on the Buddhist holy day



Plate 6.2: The rice fields

In return, the villagers often help and participate well in the activities organised by the monks, for instance, constructing a new building within the temple compound. However, the monks are not actively involved in the community health activities and programmes, mainly because they are not encouraged by the community health workers.

Summary

Religion, Buddhism in particular, and religious ceremonies are important aspects of village life in Ban Dee. Poor villagers benefit from religious ceremonies, particularly in terms of food. In the researcher's opinion, the monks are supportive and could contribute to health promotion programmes, since they are respected and their advice is followed by the village people.

THE ECONOMY OF THE VILLAGE

Paid employment allows people to acquire income, and the income of people determines their purchasing power. The economic situation of the villagers directly influences food consumption because what cannot be produced or obtained naturally must be bought. As in most rural villages, the economic situation of people in Ban Dee is dependent on agriculture. According to the same household survey mentioned earlier [see p 87], of the 540 households, 337 households were farmers, 153 households worked as hired labourers [mostly field labourers], and 50 households were traders. The villagers' level of income stated in the same survey is shown in Table 6.1.

The villagers who own land are able to grow crops all year round because of the water supply from the large dam, located 7 km from the village, and the long rainy season. The main agricultural products are rice, garlic, mung beans, soya beans, peanuts, green chilli, cucumbers and tobacco. Plate 6.2 shows the rice fields nearby the village. While the rice grows farmers go to the fields periodically to check that the water level is sufficient for growth and also to do some weeding and fertilising. In the meantime, they grow cucumbers, mung beans, peanuts and tobacco in their vegetable gardens or on the low hills near the village. When the rice harvesting time is over, people grow soya beans, garlic or green chilli in the paddy fields. However, the price of crops is not stable as it mostly depends on middle-men buyers. For instance, the price of garlic this year is only 6-8 baht per kg, whereas it was 15 baht during the previous year. Many villagers, who borrowed substantial amounts of money to invest in their crops, were not able to pay back their debt.

Table 6.1: The villager's annual income in Ban Dee (1988) in baht
[1 baht = US\$ 24-26 or NZ\$ 14-16, 1988 exchange rate]

Number of households	Level of income (baht/year)
200	less than 6,000
160	6,000-10,000
100	10,000-20,000
80	more than 20,000

As for those who have no land, they are hired by farmers who own land. According to them, a variety of jobs are available all year. The wages vary from 35-70 baht per day depending on the type of job. Most jobs are agricultural, such as ploughing, rice planting, rice and bean harvesting and threshing, preparing beds for young plants, and, picking green chillis and ground nuts. For certain kinds of jobs such as rice harvesting and threshing, it is accepted that a man is able to do more work than a woman, therefore the wage for a man is usually 5-10 baht higher than that for a woman. For casual jobs such as shelling peanuts and breaking up garlic bulbs, the pay is low. A worker earns only 10-15 baht for the entire day's work.

Apart from working as field labourers, some male villagers, mostly from landless families, work for daily wages as construction labourers in town. They are picked up early in the morning and return home in the evening. They earn about 60-80 baht for an eight-hour working day. As for women, particularly mothers of young children, some earn money from doing embroidery while tending their babies for which they are paid only about 10-15 baht a day.

With regard to family expenses, the villagers, particularly the poor, rarely spend money on luxuries as their way of life is simple and their living facilities are modest. New clothes are bought only once or twice a year. Schoolchildren wear uniforms for all public occasions since they often have no other new clothes. The landless families spend a considerable amount of their income on rice. Approximately 15-20 baht per day is considered a sufficient amount to buy food for a small family. This amount of money, however, is not sufficient to buy high-cost foods such as meat and eggs regularly.

Summary

Most people in Ban Dee are employed and there is no extreme poverty in the village. Even though many families have no land for cultivating, they are able to work as hired labourers. However, the economic situation of the villagers is influenced significantly by external factors such as middle-man buyers. Therefore, poor families do not always earn enough to cover their living expenses, including food expenses. This may lead to malnutrition problems, particularly in mothers and young children, a point which is relevant to the study.

EDUCATION

To promote their health and prevent themselves from being ill, people should be knowledgeable about health and illness. To be able to seek such information and knowledge, people need to be literate. In addition, the availability and accessibility of such information and knowledge are important. In Ban Dee most of the people under 55 years of age, are literate as they have at least 4 years of formal education. Some of those who are over 55 years learned to read and write from the informal education provided by the government. Old male villagers, who had spent some time as ordained monks, are also literate. Nowadays, village children receive their primary education at Ban Dee primary school. The school also offers a preschool class for 5-year-olds but this is not compulsory. At present, there are about 200 schoolchildren and 12 teachers in this school.

After finishing compulsory schooling, children whose families are able to support them, study further in the secondary school either in the school situated in Mae Tang district, or in one of several secondary schools in the main town. The rest stay at home, either working with their parents in the fields or as hired labourers. However, those who obtain higher education tend to get jobs in town or in other provinces. Only a few of them still live in the village and work as government officers, mostly schoolteachers in the district. Despite their higher education and important job positions none of these people took on a leadership position within the village. The reasons given for their lack of involvement related mainly to the demands of their jobs and lack of time for village affairs.

After finishing school few people have opportunities to read and write since they often cannot afford to buy newspapers or magazines. Although there is a small public reading place which was built 3 years previously, it is always closed. According to

the headman and some old villagers, when it was newly opened, there were many books, magazines and newspapers. Unfortunately, most items borrowed were not returned and the budget for setting up the library has run out. There are no funds to buy replacements. The only place where a daily newspaper is available is the big food shop, but only a few villagers have the chance to read it. In the researcher's experience, the broadcasting chamber which works through loudspeakers located around the village, has been used only for announcing village meetings or official information, and not for disseminating educational programmes. Further, health information in written form such as leaflets or brochures, is seldom available at the subdistrict health centre or the district hospital.

Summary

Despite being literate most people in Ban Dee neither have time to read nor are they encouraged to read. Information and knowledge concerning health and illness are not accessible or available to the villagers either on an individual level or on a group level via mass media educational programmes. An important means of health education and promotion, through printed media, is largely unavailable within the village, limiting the effectiveness of national and regional programmes that would otherwise impact on the health of the people. This is an important aspect of this study.

HOUSING, FAMILY AND SOCIAL RELATIONS

Housing and physical environment are important to the health of people. Good ventilation and sanitary conditions enable people to have good health. Electricity helps facilitate living conditions. Family structure, kinship systems and social relations are cultural systems which influence ways of life and behaviours of the people.

Housing

In Ban Dee, as in most villages in the North, a group of 2-5 houses whose owners are either relatives by blood or by marriage [mostly through the wives] are often built within the same compound without partitioning fences, except for houses which are situated on the road sides.

Based on the economic status of the owners, village houses can be classified into two types. The houses of the well-to-do are made of teakwood or wood and/or brick with a tile roof (Plate 6.3). The houses are either one-storey and elevated above the ground

on stilts or two-storey. The open area beneath the house provides welcome shade for various purposes such as having meals, resting, tending babies and entertaining visitors. Not very far from the house is the rice granary which is built with wooden planks and is elevated to the same level as the house floor. Some of these are even bigger than the houses of the poor.

As for the poor, their houses are generally made of either half wood and half bamboo or bamboo materials with a thatch or leaf roof (Plate 6.4). They are also elevated on stilts but not as high as those of the well-to-do. The house usually has only one room which serves as a bedroom for all family members while a verandah outside is used for the same purposes as the space under the house of the well-to-do.

The families that raise pigs usually have pig pens near their houses. Cattle stables are usually a long way from the houses. Fowls, mostly chickens, are also raised either under the houses or in bamboo cages and it is common to see chickens wandering around the house compound. In many house gardens, a variety of native fruit such as bananas, papayas, jackfruit, coconuts, tamarinds, pomelos, guavas and longans are grown. There are also native vegetables and vegetables that are usually used for daily household consumption, such as, lemon grass, galingale, ginger, kaffir, eggplant and lemons.

According to the village headman, electricity first came into Ban Dee in 1969. However, as the village is very large and many poor households were not able to pay for the labour and equipment, it took nearly 3 years to get electricity to the whole village. As for the poor, the electricity is mainly used only for lighting, which usually costs them less than 10 baht a month per household. Those who own electrical equipment such as electric fans, tape recorders, radio receivers, refrigerators or televisions pay more money. Now television has become the most popular entertainment and many families, even the poor, buy a set on time payment, requiring sums of 50-100 baht to be paid monthly for 1-3 years. For poor families such repayments create significant financial burdens. As for cooking, only a few households own electric rice cookers. No one owns electric cooking stoves. Some own gas stoves but the most still use either charcoal or firewood stoves for cooking.



Plate 6.3: A house of a well-to-do family



Plate 6.4: A house of a poor family

Family relations

It is not easy to determine whether the typical family structure of the village is nuclear or extended. In some families, the family consists of father, mother, and their unmarried children. Some families in addition to the father, mother and unmarried children include the spouse of a married daughter and their children. However, when the second daughter in the family marries, the elder daughter who married first and has lived for some time with her parents will leave the house with her husband and children to settle in a new house, most often within the same compound. Then the newly married daughter and her husband will move into her parent's home.

As for the older daughter, whose family is newly established, she still depends on her parents. The couple work on the parents' land, use the rice granary in common with their parents, or share the crop. At this stage the couple may have their own income and savings. They begin to accumulate wealth and land for cultivation. The parents' land, however will not be divided until their death, after which the land will be equally divided among sons and daughters. In addition to the land for cultivation, a younger daughter or whoever has lived with the parents until their death, will inherit the house.

After the death of the parents, each family will become socially and economically independent and start a life of its own. The family can thus be called a nuclear family in its own right. However, kinship ties and close relationships still remain. Members of the wider family often come and go to visit each other.

As Thai people are taught to obey and show respect to their elderly relatives even though the old have already passed away, spirit houses are commonly found in the house compound. The local term used for village spirits in northern Thailand is 'phipuya' (phi--spirits, pu--father's father, ya--father's mother). According to Cohen and Wijeyewardene (1984), 'phipuya' are "spirits of ancestors" and they are treated as territorial spirits to be worshipped and propitiated regularly as well as on special occasions. According to the old villagers, the spirits of ancestors are worshipped at least once a year on 'Song-kran' day (the traditional Thai New Year day in April) as it is believed that the ancestors' spirits would come to have food offered. A woman who marries must worship 'phipuya' in order to have a good married life. In addition, a seriously ill person has to worship 'phipuya' and ask them for help to recover. Normally, food offered to spirits is a whole boiled chicken or a boiled pig's head. Family members are allowed to have the food once the 'phipuya' have had enough, which usually means when the lighted incense has finished burning.

Social Relations

Although Ban Dee is a big village, the people know each other well as they usually participate in both formal and informal village activities. Whatever happens in the village is widely spread by "word of mouth". Informal visiting is an important feature of daily village life. A friend may drop in on a neighbour and simply stand around for a few minutes. A visitor may enter a house and after giving an initial greeting, he/she is usually asked to have a glass of water or is even invited to join the meal. When women are free from household chores, they usually take their young children out to their neighbours where they can have a chat and also learn about what is going on in the village. It is not uncommon that post-natal women as well as seriously ill persons are visited by neighbours, friends and relatives at any time without making an arrangement. According to the villagers, the more frequently they are visited, the more cheerful they are.

Like most rural Thai society, social gatherings, usually composed of relatives, neighbouring families and friends come together spontaneously. These groups will gather to aid each other in various activities such as planting, harvesting, irrigating the fields and constructing the houses. Common social activities in the village are funeral ceremonies, wedding ceremonies, house warming ceremonies and temple festivals at which most villagers gather. At the time of a funeral, the household always overflows with relatives and friends who come to offer emotional, moral, physical and often financial support.

Summary

Housing and physical environment vary depending on the economic status of the villagers. Within typical family structures, the villagers have close relationships with their relatives. A newly established family is dependent on their parents, particularly in terms of financial support. Young people are taught to respect and obey elderly relatives. Rural society allows people to have close contact with their neighbours and fellow villagers. Because of this, the way of life of the villagers is inevitably influenced by their relatives and neighbours. This may include the food consumption of mothers and infants, a particular point which this study investigates.

FOOD AVAILABILITY AND ACCESSIBILITY

With regard to the nutritional status of the population in each society, food availability and accessibility are major determining factors. Food shortage or famine can lead to starvation. Food available in Ban Dee can be assigned to two categories: naturally obtained foods and purchased foods.

Naturally obtained foods

As Ban Dee is located in a valley, there is an abundance of seasonal native vegetables. Mushrooms, for example, are a food source and an income earner for some villagers, as are bamboo shoots. A variety of indigenous vegetables such as ivy gourd, vine spinach and water fern can be obtained from the house gardens or the paddy fields. Apart from indigenous vegetables, the swamps near the village teem with fresh water fish, frogs and shrimp. Some villagers also earn money from selling these.

Purchased foods

Ban Dee has a big morning food market, two small evening food markets, two food shops and 11 stores. The morning food market is owned by the family of the village headman and the evening food markets are owned by well-to-do families. Traders pay 2 baht a day for renting a stall. All of the traders and most of the buyers are women. Although there is more variety of foods in the morning market than in the evening markets, there is a greater abundance of non-local food in the evening than in the morning as the sellers buy them from the market in town to sell.

Meat is reasonably priced [55-60 baht per kg for pork and 45-50 baht per kg for beef and buffalo meat], and chicken is cheap [25-30 baht for a whole chicken] because many households raise their own fowls. However, chicken eggs cost more than they do in the market in town because chickens are not raised for egg production. Fish is also inexpensive because it can be caught rather than bought if desired. Seafoods are often unavailable and relatively expensive as they are delivered from the southern and eastern parts of the country. Steamed mackerel is the only kind of seafood which most villagers are able to afford.



Plate 6.5: Meat (beef, buffalo meat and pork)



Plate 6.6: Fresh water fish



Plate 6.7: Vegetables



Plate 6.8: Bananas



Plate 6.9: Processed food (pork sausage and grilled pork)



Plate 6.10: Processed food (fried pork skin, smoked fish)

Vegetables are sold at various prices depending on the season, and those which are not produced locally such as cauliflower, kale and celery are quite expensive. Some kinds of tropical fruit such as rambutans, mangosteens, lansats and durians are expensive because they are not grown locally. Only on the major Buddhist holy days are these kinds of fruit bought for offering to the monks and the family members also have a chance to eat them. Banana is the only kind of fruit that is always available in the village markets. This is partly because it is used for feeding young babies. Food available in the village markets are shown in Plates 6.5 through to 6.10.

Various kinds of processed foods are displayed at a reasonable price. For example, a small piece of grilled pork costs only 1 baht, and native foods which are sold in plastic bags or wrapped in banana leaves cost 1-5 baht which is relatively cheap. A small poor family usually spends only 5-10 baht on processed food for each meal. Hot drinks are sold, Ovaltine or Milo and coffee. These drinks are mixed with sugar and sweetened condensed milk. Many women buy them for their young children and elder relatives. Soya bean milk is sometimes available in the market but it is mixed with a lot of sugar and it is not popular among children. Boiled cow's milk was available during the late period of the researcher's fieldwork. However, not many villagers, particularly children, liked its taste. Furthermore, some children had loose stools or diarrhoea after consuming milk, and so their parents stopped buying it for their children.

Rice grain costs 6-8 baht a litre. Sticky rice is cheaper than ordinary rice because it is produced locally. Seasoning agents [sugar, salt, shrimp paste, fermented fish etc.] which are used in daily cooking are sold at reasonable prices even though they are not produced locally. Lard is produced by the traders who sell fried pork skin and grilled pork and it is cheaper than vegetable oil and is widely used for cooking.

Apart from the village markets various kinds of goods, both foods and other products, are sold both for cash and on credit in 11 stores located in various parts of the village. They sell everything from rice grain, eggs, vegetable oil, canned food, milk in small cartons, and instant noodles, to many kinds of appealing but nutritionally unhealthy food eg. candies and snacks which are often brightly coloured with dyes that contain toxic chemicals. Fresh food stuffs such as meat and vegetables, and processed foods are also available because the storekeepers buy them from the village markets and sell them in the stores. Some brands of commercial milk powder and commercial supplementary foods for infants, such as Cerelac, are sold in three big stores at a slightly higher price than in the shop in town. Non-food goods such as medicines, soap, detergent, shampoo and toothpaste are sold at the same price as the market in town because the storeowners buy them at the wholesale price and sell them at the retail price. These stores are open all day which is convenient for the villagers.

There are two shops selling ready-cooked food. Both sell soup noodles which Thai people usually have for lunch, and the larger one also offers other dishes. The price per bowl or plate varies from 5-10 baht which is relatively expensive for poor people. Coffee, tea, carbonated drinks and electrolyte beverages are also available in the larger shop.

Summary

Whether grown locally or brought in, a variety of food products are available to people who live in Ban Dee. However, poor people may not be able to afford some kinds of food, such as meat and eggs, regularly. Thus, food products are not equally accessible to all people. When unable to obtain natural foods which are high in nutritional value, these people may develop malnutrition, a health problem which led to this study.

DAILY NUTRITIONAL INTAKE OF THE VILLAGERS

In addition to food availability and accessibility, what people consume daily and how the food is prepared are also important. Food consumption is determined by various factors, for example, food habits and economic resources. Discussion on the daily nutritional intake of the villagers includes consideration of food for adults and food for infants and children.

Food for adults

Like most northern Thais, people in Ban Dee eat sticky rice as a staple food with only one or two other dishes for each meal. Although rice is high in carbohydrate when it has been husked, it is generally low in vitamin content. Because it is soaked for several hours before cooking, sticky rice is low in water-soluble vitamins. Sticky rice is usually cooked in the morning and is kept in a plastic container to keep it warm all day long. Other food is usually prepared meal by meal and all family members, except young babies, eat the same dishes. Normally, indigenous food that goes well with sticky rice is hot and spicy. It is not uncommon to have sticky rice with only native chilli paste and fresh or boiled vegetables. Most native curries usually consist of a small proportion of meat and a large amount of vegetables. For example, about 100 gm of meat or one chicken breast is considered enough for one pot of curry for five persons. However, on special occasions such as harvesting time, the major Buddhist holy days, a wedding ceremony, a house warming ceremony or a funeral ceremony, a larger amount of meat would be used.

At each meal, all family members gather around and the tray of dishes is put in the middle. The traditional way of eating is to pick up sticky rice from the container and roll it to make it solid enough to dip into a bowl or plate of food and put it into the mouth straight away. This might be followed by a spoonful of curry sauce to make the rice palatable, and the same spoon can be used by every one. There is no rule or tradition that men eat first and women later. However, a housewife usually takes care that her husband and children have had enough, and a mother with a young baby usually looks after the baby while the father and older children are eating. Therefore, if there is only a small amount of food women probably do not have enough.

Due to the influence of advertisements in the form of posters apparent throughout the village and radio and television broadcasts, many people, particularly male villagers, spend a lot of money on electrolyte beverages instead of nutritious food. One small bottle of these beverages [100-150ml] costs 7-10 baht. This amount of money is enough for one meal for a small poor family.

Food for infants and children

Apart from breast milk or artificial milk, babies are introduced to solid food early. Two kinds of rice are widely used. The traditional one is pounded sticky rice mixed with mashed banana. Another is called 'khoa oat' which is a commercial supplementary food, Cerelac. According to the label, Cerelac contains rice flour, sucrose, milk fat, skimmed milk powder, maize flour and maize oil. One hundred grams of Cerelac powder yields 421 calories. It is recommended to use for babies from the age of 4 months onwards. The amount of solid food offered is gradually increased, and a child of 4-5 months will be offered at least half a small bowl of food twice or three times a day.

When babies reach about 6 months of age and their teeth begin to erupt, they are introduced to pre-masticated sticky rice with indigenous foods for infants such as grilled pork and fried pork skin. Steamed mackerel is the only kind of non-local food that is fed to young babies. Certain kinds of fish are introduced when a child is close to a year of age. A small lump of sticky rice is chewed together with a tiny piece of food before feeding it to a baby. Only one or two small pieces of such food is considered enough for each meal. When infants are sick some mothers feed them boiled rice cooked from ordinary rice and mince pork instead of pre-masticated rice. However, other mothers are not able to do so because it is not convenient for them to cook steamed rice just for feeding a baby. Not many families own rice cookers, and also not many northern Thai people are keen on conventional steamed rice.

When babies are able to hold things in their hands, they are sometimes allowed to feed themselves. Often they are given snacks of low nutritional value just to keep them quiet while their mothers are busy. Hence, when they grow up and are able to speak the children frequently ask or even cry for snacks.

Generally, children are encouraged to eat as much rice as they want, but they are discouraged from eating too much meat as it is believed they will be infested with intestinal parasites. Children who attend the village primary school are provided with lunch on a limited budget for which the school has financial support from the government. However, since this support amounts to only 1,000 baht a year, the children who join the programme have to pay 3 baht a day. Many families are not able to afford even this small sum and the children have to return home to eat the midday meal. In addition, some children stated that they prefer having indigenous foods at home rather than the school lunch as the latter is "not tasty".

Milk supplements are rarely given to children after weaning. Other products, such as Milo and Ovaltine, are used. They consist mainly of chocolate and sugar and are "milky" only when made with milk. Although mung beans and soya beans are produced locally, the villagers seldom cook with them. Only a few kinds of native desserts are made from these beans and only a few women know how to make soya bean milk. The primary school children are given soya bean milk at school once a week. Dried fish and canned sardines, other sources of calcium, are not very expensive and most children would have them occasionally. This probably prevents calcium deficiency which has not been identified as a major nutritional problem. [see detailed information about seven major nutritional problems on p 3]

Summary

The daily nutritional intake of the villagers, both adult and children, is mostly composed of carbohydrate from rice. Consumption of other nutrients such as protein, fat, vitamins and minerals is varied, depending on their food habits and economic status. Pregnant and lactating women may have inadequate nutrition if they are not able to afford to buy highly nutritious food regularly, and also refrain from eating certain kinds of food. Infants who are fed a large amount of rice may be too full to consume much milk. Thus, the milk consumption of these infants may be insufficient for their growth. Likewise, an inadequate intake of meat due to traditional beliefs and customs may result in protein deficiency in children. These points are particularly relevant to this study.

WOMEN'S WORK AND RESPONSIBILITIES

Women's work and responsibilities appear to influence infant feeding practices in most societies, particularly breastfeeding mothers. In Thai society, particularly in rural areas, women are expected to contribute substantially to subsistence activities. Women in Ban Dee are no exception. They are expected to be responsible for day-to-day activities such as tending babies, washing clothes and dishes, getting water and cooking, whether or not they work outside the home. However, in some of these tasks, such as obtaining and chopping firewood, the male members also help. The typical day of a housewife usually begins before dawn when she wakes up and steams sticky rice on a firewood or charcoal stove. Then, if there is no food left from the previous day, she goes to buy foodstuffs from the morning market and cooks breakfast. After breakfast, the husband prepares farming tools for the day's work and the wife sees her children off to school. Then, a couple go out to work in the fields either on their own land or as hired labourers. When they return from work in the evening, the wife, once again, goes to buy food from the evening food market and cooks dinner. It is the woman's duty to purchase food for the household and also control the money for the family.

During pregnancy, women remain as physically active as prior to becoming pregnant. Most of them continue working in the fields until they are 7-8 months pregnant. In fact, some even work until they go into labour. However, during the post-natal period, women are usually free from both outside work and household chores for at least 1 month. During this time their husbands and close relatives take most of the responsibility for these tasks. As for women who breastfeed their babies, they mostly stay home, do household chores and look after the babies, until the babies reach about 6 months of age. Then, some of them resume outside work during the day and the babies are left to stay with their grandmothers or older siblings. Like most Thai elders, old women in Ban Dee actively help their children and grandchildren as much as they can. It is common to see an old woman doing household chores while keeping an eye on her young grandchild all day long.

Summary

Within a subsistence lifestyle, women are expected to be responsible for both household chores and working for wages outside the home except during the first postpartum month. The duration and frequency of breastfeeding may vary depending on the mothers' work patterns. Furthermore, as women are responsible for controlling the family budget, poor mothers may attempt to reduce family expenses including food expenses. This may affect their own nutritional status and that of their children, a particular point relating to the study.

CHILDREARING PRACTICES DURING THE FIRST FEW YEARS OF LIFE

The family is the fundamental unit responsible for bringing up a child. In addition to mothers, Thai infants are fed and cared for by other family members, elderly relatives in particular. Day-care services play a great role in childrearing during the late infancy period as mothers have to resume work outside the home, and grandmothers are not always available. Description in this section includes the family role and the role of day-care centres in childrearing.

Family roles in childrearing

Like most rural Thai children, children in Ban Dee are brought up among families and relatives. They are loved by parents and relatives and are likely to be indulged by their grandparents.

Traditional beliefs and practices concerning child care and childrearing are of interest. A newborn baby is bathed with water from soaked rice as it is believed that it will make the baby strong and can prevent skin disorders or skin infections. Books and needles are put under the mattress as it is believed that such things will make the child clever. A broom is put under the mosquito net to prevent the child being disturbed by ghost spirits. Infants are never allowed to cry at all, particularly at night time. It is not believed that infants learn patience and self reliance by being left alone or left to cry. The general belief is that when an infant cries, parents should do whatever is necessary to calm and comfort it. If an infant cries at night, the whole family, including grandparents, stay awake and take turns holding and comforting the baby. Then, if the situation continues for a number of nights, a magical ritual is performed in order to make the infant stop crying.

During the postpartum month, the mother and the baby stay in the bedroom, mostly under the mosquito net. From the first month onwards, the mother and her newly born infant stay outside the bedroom and many neighbours and relatives come to see the baby and talk to the mother. While sleeping during the day, the baby is placed in a cradle and the mother keeps rocking it. At night time, children sleep in the same mosquito net as their parents until they grow up and are willing to sleep on their own. Moreover, in the single-room house of the poor, children always sleep in the same bedroom as their parents until they become teenagers.

During the first year of life, the child's most intense relationship is with the mother and her kinswomen. The children in the family and in the village have some contact with the baby. They stimulate the infant by verbal sounds, touching and holding him/her. The infant responds to the children's stimulation and learns to expect these sounds and touches from people around. Young children are often taken out by neighbours and relatives who are free from their daily work. Thus, mothers have time to cook or do household chores.

Generally, mothers take most of the responsibility for infant care and feeding until infants are introduced to pre-chewed rice and native foods for children, mostly when they reach 5-6 months of age. At that time, infants are fed and cared for by whoever is available at home, mostly their grandmothers, as the mothers go back to work outside. Most children, therefore, are very close to their grandparents. Some of them call their grandparents - father and mother - as well.

Role of day-care centres in childrearing

There are three day-care centres where the villagers send their young children during the day. One is in Ban Dee, the other two are in Ban Yen and Ban Nang, the neighbouring villages of Ban Dee. All of them offer to care for the under-fives who are already weaned. The number of children attending each centre is shown in Table 6.2.

Table 6.2: The Day-care centres

Name	Number of children	Fee for minding (baht/month)
Ban Dee centre	10-15	80-120
Ban Yen centre	90-100	50-80
Ban Nang centre	40-50	80-100

The fee for minding each child varies among these three centres as shown in Table 6.2. All three centres work on the same principle: the younger the child, the higher the fee. In addition to the fee, each child has to pay 3 baht for lunch, and, for those who attend the centres in Ban Yen and Ban Nang their parents have to pay another 2 baht per day for transportation. A detailed description of each follows.

The day-care centre in Ban Dee: This centre is situated in a one-storeyed building, the ventilation is good but there are no toys for children. The small kitchen is close to the building. The owner, Downrung, and her family live in the small house behind the building.

Downrung, a 28-year-old woman, has only primary school education. She used to help one of her relatives run a day-care centre before she was married. Downrung has two daughters. Her first daughter, Pan, is 10 years old but the girl is mentally retarded. Downrung has to look after Pan at home together with other children because she and her husband are not able to afford to send Pan to the school for mentally retarded persons. As Pan always plays with the children and she often falls over them, Downrung has to keep an eye on her and remind her continually not to hurt the children. Her younger daughter, Fang, is 13 months old and is still breastfed.

Downrung has a 12-year-old girl, Eed, to help her at the centre for which she is paid 10 baht a day. Eed is a tiny girl and rarely smiles but looks healthy enough for her age. She finished her primary schooling several months ago. Her duties are keeping an eye on the children while they are playing and chasing around, taking them to the toilet and cleaning them, soothing the ones who cry, preparing them to settle in the afternoon, and, sometimes, buying food for cooking lunch. Downrung, herself, has little time to look after other children as both of her daughters keep her busy most of the time. However, she is responsible for cooking and serving lunch to the children.

The first time the researcher visited, there were seven children and two of them were under 2 years of age. On subsequent visits, the number of children had increased but not more than 15 children were present. According to Downrung, she plans to weigh the children every 3 months, but unfortunately, the scales she has are out of order.

The day-care centre in Ban Yen: Ban Yen day-care centre is about 1 km from Ban Dee. It is the biggest day-care centre in this subdistrict and is partially supported by the Social Research Institute at Chiang Mai University. Amphan, the owner of this centre, is 25 years old. She finished Mathayom Six [high school level] some years ago and plans to study further at teacher's college. She has her mother and one younger sister to help her and she also hires two girls for additional assistance and pays each of them 500 baht a month. Amphan's mother is also responsible for cooking and feeding young children. According to Amphan, the day-care centre was first started in 1982 at Ban Yen primary school. When it became too crowded, Amphan and her mother decided to build a wooden, one-storeyed building in her

house compound and the children were moved there. There is now another small bamboo building which is used for children under 2 years.

Of the 90-100 children attending this centre, 20-25 are under 2 years of age, but none of them is under 1 year. In fact, many parents of younger children want to send them to the centre but Amphan is afraid that they are too young and might become sick easily. So she always tells the parents to wait until the children are at least 18 months old. The children over 3 years are taught to read, write and draw pictures by using teaching aids for preschool children. According to Amphan, the children are weighed every 3 months. The children who are underweight are reported to the Institute at Chiang Mai University and they are given supplementary food such as milk until they gain weight.

The day-care centre in Ban Nang: This centre is about 2 km from Ban Dee. According to the owner, Riang, this centre was run by her younger sister for 12 years. Her sister became bored by the job and moved to live in Bangkok several months before the researcher visited. Riang, therefore, is continuing to run the centre. Riang finished her primary schooling about 30 years ago. She has two sons, the first of whom was recently married to a girl from Ban Dee who also helps Riang at the centre.

In this centre, there are two one-storeyed buildings close to each other. The big building is used for children over 3 years old, and the small bamboo one is for those under 3 years of age. Close by the big building is a leaf-roof shade used for having lunch. At one corner of the big building, there are two small toilets and a water tap, as well as an aluminium water container and a few plastic cups. The space in front of the buildings serves as a playground and there are three small swings, a seesaw and a merry-go-around on which the children play. Two big trees give good shade to the area. There is a low bamboo fence surrounding the centre. Not far away from the centre, there is a small stall that sells snacks and junk food, most of which have little nutritional value and may even be harmful to children.

Ban Nang centre is open from Monday to Saturday and also offers to look after children on Sunday by charging another 10 baht for each child. It also accepts under 1-year-olds who have already been weaned, whereas the other two centres do not. In addition to Riang and her daughter-in-law, Riang hires two teenage girls to help her mind the children. She pays each of them 600 baht a month.

During the researcher's first visit, of the 40-50 children attending, there were at least 20 children under two. There were three children between 8-12 months old who were not yet able to walk. Another six children were able to walk, but could only speak a few words. Many of the children had runny noses. Riang and one caregiver looked after these children by just sitting on the floor and keeping an eye on them, and the children crawled or walked around the building. The children's noses were wiped with the same piece of cloth. When any child cried he/she was held and given a cuddle for a little while. Some of them had no pants on as they had wet or soiled them all. There were no toys for small children. Smaller children were sometimes allowed to walk in the playground, but they were often hit or knocked down by older children chasing each other around. In Riang's opinion, a good child is one who always stays still, seldom cries and rarely moves around.

Many young children the researcher visited in Ban Dee attended this centre. Most of them were frequently sick from respiratory tract infections and gastrointestinal infections. Riang said that the children who were newcomers always got sick easily but when they grew older they would not get sick so often. Whenever a child is sick and absent, Riang always visits him/her at home and insists on the child being sent to the centre. A few weeks before the researcher left the field, a 2-year-old boy had infectious diarrhoea a few days after reattending the centre. The rectal swab culture was positive for cholera. The staff of the subdistrict health centre asked for cooperation from the owner of this day-care centre to investigate the caregivers, but she refused to cooperate. The staff of the health centre said that they had no legal power to deal with this matter. They just reported the incident to the district health office. According to the staff of the health centre, cholera-type bacteria had also been found in another two or three day-care centres in Mae Tang district in the last few months.

Food offered by day-care centres

In each centre, children usually arrive around 8-9 am and they return home around 5-6 pm. Those who attend the centres in Ban Yen and Ban Nang are picked up earlier. Therefore, some children bring in their breakfast, which is usually sticky rice and native food. Before lunch time, most children appear hungry as they are rarely given anything to eat in between meals. Lunch is usually served about noon. It mostly consists of steamed rice or rice noodles with plain curry prepared from a small amount of meat or eggs and leafy vegetables. Children who are able to feed themselves are

served lunch by using separate bowls or trays and spoons (Plate 6.11). Some eat slowly and sometimes they stop eating for a little while and play with other children. Their lunches are taken away when they stop eating on the assumption that they have finished.

Children who are not able to feed themselves are fed by the caregiver by using the same bowl and spoon for all children (Plate 6.12). Even though there are a few children who are able to feed themselves slowly, they are not allowed to do so as the caregivers want them to finish lunch as quickly as possible. The lunch offered by Ban Nang centre had less nutritional value than those of the other two centres. For instance, a typical meal is boiled or steamed rice with only a small amount of fried egg. In addition, the dishes are plastic and look dirty. The children in this centre, whose parents give them extra money, buy snacks or sweets from the stall situated in front of the centre.

After lunch, children have their faces and hands washed, then they are prepared to settle down in the afternoon. After waking up in the late afternoon, they are given a snack or dessert. Cow's milk is rarely served as some children have loose or watery stools afterwards, so their parents tell the owners not to give those children milk any more. However, at Ban Yen centre, soya bean milk is served once a week.

Summary

During the first 5-6 months of life, infants are mostly cared for by mothers at home, assisted by elderly relatives. From 5-6 months onwards, during the day infants are looked after by whoever is available at home, mostly grandmothers. Apart from families and relatives, the day-care centres play an important role in childrearing in Ban Dee. As infants usually spend the whole day at day-care centres, their nutritional status is largely dependent on the food offered by day-care centres. Unfortunately, the food offered by these centres usually has low nutritional value and the care provided by the caregivers is often unhygienic. Because of this infants who attend day-care centres are unlikely to have adequate nutrition, and are vulnerable to infectious illnesses. These are critical points which relate to the study.



Plate 6.11: Older children feeding themselves



Plate 6.12: One bowl and spoon for everyone

HEALTH PROBLEMS AND DISEASE PREVALENCE

The nutritional status of the people, children in particular, cannot be improved if they are frequently ill, and do not receive proper treatment. Description in this section will allow readers to understand which types of illnesses frequently occur in the adult villagers; the nutritional situation of the village children and their illnesses; what the adult villagers perceive as the cause of illnesses; how they relate foods to illnesses, and how they seek treatment.

Illnesses in adults

Many villagers suffer from various illnesses and many of these illnesses are preventable. Firstly, many people over 40 suffer from low back pain as they have to bend down while working in the fields for many years. These people use a medicine which mostly consists of acetyl salicylic acid (i.e. aspirin) as a pain killer. One villager said, *"I have to take one or two envelopes of this medicine every day, otherwise I am not able to work in the fields all day long."* Prolonged intake of aspirin often leads to the development of peptic ulcer. Despite having gastrointestinal bleeding due to overdoses and prolonged use, some still go back to taking the medicine after recovering. Moreover, some state that such medicine is also used to treat diarrhoea.

Secondly, colds, influenza and sore throats are also common. 'Ya chud' (a set of medicines which is composed of an antipyretic drug, an antibiotic drug, an antihistamine and prednisolone) available in the stores is widely used. The villagers said that taking such medicine made them recover quickly. Many elders have hypertension due to arteriosclerosis and subsequently develop cerebro-vascular problems. The wide consumption of lard rather than vegetable oil could be a related factor here.

In terms of the causes of illness, the villagers believe that souls and spirits are major causal factors of sickness. For example, the 60-year-old mother of one of my informants had asthma for many years. One day she was taken to the hospital with a severe attack. When she recovered, she was still weak and had a poor appetite. She said, *"This year is my birth-year. I have to worship my ancestor's spirit but I haven't done so yet. So I nearly died because I was punished."* Another example is a family consisting of one couple and their three children. They lived in their own house in the same compound as the husband's parents. Their third daughter was malnourished and often sick. One day, the husband was seriously ill and he was taken to a private clinic and also was treated by a traditional folk healer. The spirit medium told his parents

and relatives that he was being punished by a ghost as he had been to catch fish in a remote swamp. Despite having a low income, the majority of their income in this year was used to build a new house on the other part of the compound as their parents believed that the guardian spirit and the ancestor's spirits wanted them to move the house from where it was situated. It was believed that otherwise, the whole family would become sick repeatedly.

It is also believed that in addition to one's real parents, everyone has "birth-parents" called 'pho kird-mae kird' who determine when one should be born and when one should die. When one has a serious illness, he or she has to worship the birth-parents and offer food to them as it is believed that the "birth-parents" will then permit the patient to live.

Nutritional situation of village children and their illnesses

According to the weight survey done by the VHCs in October 1989, there were 62 children under 5 years old in Ban Dee. Of this number, six were under 6 months old, nine were 6-12 months old, 15 were 1-2 years old and 32 were 2-5 years old. In the under-6-month group, one was considered as having third degree malnutrition. That baby was born prematurely. All of the 6-12 month old children had normal weights. Nine of the 1-2-year-old children were considered to have first degree malnutrition. For the 2-5-year-old group, 19 had first degree malnutrition and one had third degree malnutrition.

Diarrhoea and upper respiratory tract infections are commonly found among the preschoolers. However, a certain sickness is viewed as a natural process. If a child has greenish, loose or watery stools during the period of developing skills such as sitting, crawling, standing or walking, the faeces are called 'yoa', and it is believed that it is not necessary to have the condition treated. For example, a 6-month-old girl was starting to crawl and by that time the girl had also been introduced to pre-chewed rice instead of pounded sticky rice. When she had greenish, watery stools, her mother said, "*She has 'yoa'*". The girl was not given any medicine for 2 days. As cleanliness is not highly valued among the villagers, it is not necessary to wash one's hands before having meals. It is common to see an adult feeding a baby without washing their hands first. Parents and children who have respiratory infections always sleep under the same mosquito net and thus in close proximity.

According to the teachers, many schoolchildren have iron deficiency anaemia and some have liver fluke infestation resulting from the consumption of raw fresh water

animals and fermented fish. From the researcher's observations, many schoolchildren have fissures at the corners of their mouths [angular stomatitis due to riboflavin deficiency], but their parents's explanation was that they had 'penkang' (sore mouth) because they ate many sweets.

Treatments sought by the villagers

Once there is an illness, either in a child or an adult, it is treated at home first by medicine that is available from the stores or by traditional medicine. For minor illnesses such as colds or diarrhoea, over-the-counter medicine is usually used. Although there is no drug store or chemist in the village, many kinds of medicines are sold in the stores without a physician's prescription. They are antipyretic, analgesic, antidiarrhoeal, antihelminthic, and appetite stimulant drugs.

If the disease is not cured by oral medicine, 'mho cheed ya' (an injection doctor) [see Glossary, Appendix 1] who is not formally trained would be asked to give an injection or even an intravenous infusion. Most villagers believe that being given an injection or intravenous infusion will make them recover sooner than taking the same medicine orally. For intravenous fluid, they expect that it will make them strong and healthy even though they have to pay about 100-150 baht for each infusion. Three men, including the village medicine man, are known among the villagers as 'mho cheed ya'. From the researcher's observation at the house of the village medicine man, the villagers often come to see him and ask him to give an injection or intravenous infusion at their homes. The village medicine man said that he was, sometimes, reluctant to do so but he could not resist the patients and their relatives. However, these 'mho cheed ya' have never been sued even when patients have died right after the treatment. The patient will be taken to the hospital or the private clinic only when he/she has still not recovered after being treated at home.

In terms of traditional practices, herbal and traditional Thai medicines as well as magical cures are still used to treat certain kinds of diseases. The village medicine man treats those who have a high fever by using a needle to stab the patient's finger until the blood comes out. He is not able to explain the mechanism. He said, "*Perhaps the patient is frightened and then the fever goes down.*" Inhalation of herbal medicine or 'rom ya' is popular among the villagers. To do this, a pot of water containing medicinal herbs and bark is heated to boiling point and then the top is sealed over with banana leaf. A sliver of bamboo is used to pierce the covering leaf so that the steam rises into a tent in a thin stream. Thus, the one who is in the tent will sweat profusely. It is believed that it could help to dry the womb of a postpartum woman and also relieve muscle pains and headaches.

The villagers' perceptions concerning food and illness

The villagers view certain kinds of food as the cause of illness. In this they are guided not by the comparative nutritional value of particular foodstuffs, but by their own traditional beliefs. For instance, beef is considered poisonous for post-natal women and most sick persons. Those who have a wound, an ulcer or even a skin rash from a viral infection such as measles, are usually forbidden to eat chicken, eggs and mackerel due to the belief that such foods would cause itching and leave a scar. Pork is the only meat they can have.

The 70-year-old grandmother of one of my informants had had an infected wound for 2 weeks before she was taken to the provincial hospital. She was diagnosed as having diabetes mellitus and was hospitalised for nearly a month. When she returned home, the wound was still infected. The staff at the health centre taught her granddaughter to change the dressing. Despite having a poor appetite, the old woman abstained from eggs, chicken and beef due to the belief that such foods would cause itching and delay wound healing.

The 40-year-old sister of one of my informants had a ruptured appendix before arriving at the University Hospital. When she returned home, the surgical wound was still infected. She had to have the dressing changed at the district hospital for another 10 days. Her mother and relatives told her not to eat egg and chicken but the nurses and doctors at the hospital told her to eat them. She said, *"I have one egg every day because the 'mho' (doctor) told me that it would help wound healing. I obey him because I want to recover as soon as possible. I have some itching it is not very severe."*

Summary

Various illnesses occurring in both adults and children are preventable. However, the villagers' perceptions concerning causes of illness are governed by traditional beliefs rather than by medical knowledge. This may include their understanding in relation to childhood malnutrition and its complications. The beliefs that certain types of food could cause or aggravate the symptoms probably prevent sick people from having highly nutritious food which would help them to recover. Further, in attempting to minimise the cost of treatment, the villagers acquire medicine without a physician's prescription and seek treatments from non professional people. This may result in serious complications, which in turn aggravates their nutritional status, particularly in children.

COMMUNITY HEALTH SERVICES

The health services available in the community are important in carrying out health policies and programmes. Description in this section is focused on the community health services provided by the subdistrict health centre, the district hospital, and the mobile family planning services. Emphasis will be placed on how the services affect the health and nutritional status of mothers and children.

The subdistrict health centre

The subdistrict health centre shown in Plate 6.13 is responsible for health services in 16 villages within one subdistrict. The main services according to staff job descriptions are: vaccination, school health, home visits, family planning, mobile clinics and health education. There are three members of staff: a midwife, a technical nurse [see Glossary, Appendix 1] and a sanitation officer. The official working day is from 8.30am - 4.30pm. Outside these hours, there is no staff member on duty. According to the staff, they spend most of their time in the office which usually keeps them busy all day. They said that they rarely have time to visit the villagers at home.

According to the headman and the elders in Ban Dee, when the health centre was newly established many years ago, it was smaller than it is now. They said, *"The first 'mho' (midwife) was very good. She made home visits every day, especially to the families that had pregnant women and babies. She was often asked to help mothers give birth at home because at that time, going to the hospital was very difficult. So every villager knew her and loved her because she was kind and friendly. Even when she was waken up during the night to help with deliveries, she never had a bad temper. The second 'mho' was not as good as the first one but she still made visits around the village. Now the health centre is bigger than it was and there are three 'mho' but they rarely visit the villagers. Sometimes the patients at the centre have to wait for many hours because the 'mho' are out."*

One of the mothers of young children said, *"The 'mho' at the health centre often go out. Last time I took my baby to be vaccinated, I had to wait for an hour to see them. Some of my neighbours gave up and returned home."*

The researcher was often greeted by the villages while biking around the village. They said, *"You make me think of the first 'mho' who used to work at the health centre many years ago. She often visited the villagers like you. Now the 'mho' at the health centre seldom visit us."*

The VHV [see pp 79-80] said, *"The 'mho' told me and the VHCs to persuade the villagers to buy a health card [see Glossary, Appendix 1] but many villagers said to me that it was not worth buying one. Some prefer to go to the big hospitals in town [the University Hospital, the Women's and Children's Hospital and the provincial hospital] instead, because they are not satisfied with the service at the health centre and the district hospital. One old villager told me that he went to the health centre because he had a headache and asked the 'mho' to measure his blood pressure but he was told that the equipment had been lent to someone."*

The VHCs [see pp 79-80] who were assigned to weigh children under five said, *"The 'mho' told us to weigh these children but she didn't explain to us or the mothers why we have to do so. Many children go to school during the day and we don't have time to visit them in the evening. We told the mothers to take the children to our houses but some of the mothers said that they were very busy. It's very difficult to weigh some small children because they are scared of being weighed. Some of them cried a lot and we had to give up because the mothers did not allow us to weigh them."*

With regard to birthing services, despite attending the ante-natal service at the health centre, none of the women in Ban Dee gave birth there during the 10 months of the researcher's fieldwork. Instead they went to give birth at the district hospital or the hospital in town. They said, *"Giving birth at the health centre is not convenient, there is only one small room in the building. I don't want to expose myself. The 'mho' never stay at the centre during the night either."* One woman who gave birth at home assisted by a traditional birth attendant said, *"My husband went to the health centre but no one was there because it was night time."*

During several visits to the health centre, the researcher observed that the children who were taken to be vaccinated were not weighed unless their mothers requested it. The types of vaccine were not explained to the mothers nor were the side effects and the advantages of vaccination. They were given only antipyretic medicine and, sometimes, vitamin supplements if the babies looked unhealthy. Advice about infant feeding was seldom given. One member of staff said, *"The villagers rarely take our advice. I used to tell them not to give rice to newborn babies but they still do it. It's very difficult to change them."*



Plate 6.13: The subdistrict health centre



Plate 6.14: The district hospital

During the rainy season each year, there is an epidemic of dengue haemorrhagic fever and viral encephalitis in Thailand, particularly in the North and the Northeast. These diseases have killed many children. As the mosquitoes [certain species] are vectors of these diseases, the Ministry of Health provides a chemical substance for use by the villagers to spray their houses and the house compounds. This year, the chief of the health centre asked the headman to call for a village meeting in the middle of the season. As the substance has to be mixed with kerosene, each household has to pay 5 baht for kerosene. A few days after, many villagers said to me, *"The rainy season will be over soon. It is not worth doing it now. Actually, it should have been done early in the season."*

The midwife who is the chief person of the health centre said, *"From my experience as I have worked for many years, people in some villages of this subdistrict have not cooperated well compared to the remote village that I used to work at before moving here. For instance, I asked the VHCs in Ban Dee to weigh the children under five in the village 2 months ago, but they haven't finished it yet. Some said that they do not see the importance of weighing. I explained to the VHV and the VHCs about the advantages of the health card and asked them to let the villagers know. But none of the villagers in Ban Dee has joined this programme. Ban Hut, which has only 100 households, has already joined the programme because the headman, the VHV and the VHCs are very active."* She continued, *"We offer vaccinations every other Tuesday but some mothers do not know and they get angry when they are told to come back again on the appointed date. So I often feel tired and discouraged."* According to the staff, there are too many projects but the budget is limited. For example, the budget for demonstrating how to cook supplementary food for children is only 40 baht (NZ\$ 2.8-3.0), which is not enough. They said, *"The health service policy is good but in practice it doesn't work."*

The district hospital

The district hospital shown in Plate 6.14 is the nearest hospital for the villagers in Ban Dee. It is a ten-bed hospital. There are two doctors [one is on study leave] and 24 nurses. The official working day is from 8.30am - 4.30pm. Outside these hours, only emergency patients are given treatment, but there is no doctor on duty at this time, only two nurses.

One male nurse who the researcher knew personally said, *"The former hospital director was very good. He paid attention and always encouraged us to do the job. But he's just moved to a higher position and the female doctor who is the present*

director is an authoritarian person and she spends most of her time on private business. I am getting bored with working in this hospital but I have to stay here because my family has settled in this district."

One of my informants had a sterilisation after giving birth to her second child but she still became pregnant again. Therefore, she had to have another operation after giving birth to her third child. Many women said, *"I would never have a sterilisation at the district hospital because I don't want to have another operation."* Many villagers said to me, *"I dare not go to the district hospital. I have heard that the 'mho' often scold the patients especially if we go there during the night."*

One of my informant's brothers had a severe abdominal pain during the night and the nurse at the district hospital told him that he had a peptic ulcer and he was given medicine to treat it. A few hours later, he had more severe pain and he was taken to the University Hospital. He was diagnosed as having a ruptured appendix and had to undergo an emergency operation. He had to stay in the hospital for another 5 days as the operation site was infected due to the ruptured appendix. His mother said, *"If he had gone to the hospital in town first, he wouldn't have had to stay in the hospital so long."*

Two of my informants gave birth at the district hospital. They returned home a day after delivery. They said, *"It was not convenient. I had to have my mother accompany me during the day and my husband stayed with me during the night because the nurse rarely visited me. My husband had to bring in food and clothes for me and also the diapers for the baby."* According to them, they were not told or encouraged to breastfeed their babies.

According to the villagers who had been admitted to the district hospital, the physician usually visited the in-patients only once in the morning and the nurses rarely visited the patients during the night. Every patient had to have an accompanying relative. It is the relative's duty to bath and feed the patient. Nurses give patients their medicine and treatment according to the physician's prescription but do not provide other care. While visiting a 1-month-old baby who was diagnosed as having malnutrition and aspiration pneumonia, the researcher observed that the nurses never taught the mother about feeding the baby. The baby was even bottle-fed by propping-up the bottle in position. The mother was neither asked what she had fed her baby nor encouraged to breastfeed. Therefore, when the baby returned home, the mother went back to feeding rice to him and continued propping-up the bottle.

Family planning services

Women in Ban Dee choose to have family planning either at the subdistrict health centre or from the mobile service offered by the private sector. According to Mougne (1978), in 1967, Dr E.B. McDaniel of the McCormick Hospital [the private hospital] selected Ban Dee as a site for a pilot family programme. Every month a mobile team, consisting of a doctor and nurses, visited Ban Dee offering oral and injectable contraceptives to village women. The service has been offered until present but the team now visits only every 3 months. Nowadays, the majority of married women practise family planning, by using injectable contraceptives, and generally most families have only two children.

In her own study mentioned earlier [see p 41], Mougne (1978) concluded that the high level of acceptance of family planning in this village was a result of a variety of social, economic and cultural factors. These included a rise in fertility following the Second World War which highlighted for the villagers the lack of new arable land to support a growing population. In addition, women dominated the trading sector, which activity was hampered by childbearing. Together these factors encouraged the control of fertility. A rather strong factor in the acceptance of family planning was the Buddhist beliefs discouraging the main alternatives to family limitation, which were abortion and infanticide.

Summary

The villagers tend to seek health services from the subdistrict health centre and the district hospital because they are easily accessible. However, the staff of the health centre are often unavailable and seldom make home visits. Further, they do not actively supervise and encourage the volunteer health workers to do the job. Thus, the health programmes are not carried out effectively. This includes the nutrition surveillance programme. The villagers are often dissatisfied with the services provided by the district hospital. This includes the delivery service. The only health service that seems to satisfy the villagers' needs is the family planning service. As a result, the nutritional status and health of mothers and children are unlikely to be improved through the available community health services, the subdistrict health centre and the district hospital in particular.

SUMMARY AND CONCLUSION

In this chapter a detailed description of the sociocultural structure of the village has been presented. Emphasis has been placed on the aspects which affect the villagers' health and illness, particularly in the case of women and young children. As described a number of the physical characteristics and social structures of the village are most

likely to facilitate better nourishment of women and children. Others, however, tend to hinder good nutrition, with some actually contributing to women and children being poorly nourished.

The location of the village encourages agricultural production and the available transportation services facilitate food availability and accessibility. Most villagers are employed but poverty is still found. Because of low wages and varying prices of the crops produced, the income of poor people rarely covers family expenses, including food expenditure. It is an economic necessity for poor and middle-class households to have two incomes to meet basic needs and compensate for the irregularity of income. Women, therefore, actively participate in the labour force. To combine child care and work outside the home, women leave their babies in someone else's care, either kinswomen at home or low-cost day-care services in the community. Unfortunately, the food offered by day-care centres does not have sufficient nutritional value to promote child nutrition. In addition, the unhygienic care provided by caregivers leads to children frequently being ill, particularly with diarrhoea, which in turn affects their growth and nutrition.

In addition to economic resources, people's food intake is largely influenced by traditional beliefs. Most women practice food avoidances both during pregnancy and following childbirth. Similarly, childhood food taboos are common, particularly when an illness occurs. In this way, women and children who are forbidden certain food without replacement with other kinds of food which have the same nutritional value, are most likely to be poorly nourished.

Religion and religious ceremonies help unify and integrate the way of life of Ban Dee villagers. Because they are respected and the villagers tend to follow their advice, the Buddhist monks could contribute substantially to health education programmes. But this point has not been taken into consideration by community health workers. Another aspect which is most likely to be beneficial to people's health is kinship and social relations. Sick people are visited and well cared for by their relatives and neighbours, as are postpartum women and newborn infants. This makes them feel supported and cheerful.

Political aspects in this village, particularly in terms of community leadership, are unlikely to be beneficial to the health and wellbeing of the villagers. The villagers are not satisfied with their community leaders and perceive them as unapproachable. At the same time these leaders do not see themselves as crucially important in facilitating the health and wellbeing of the villagers.

The villagers tend to perceive a number of health problems and illnesses as being caused by supernatural influences, and therefore, often seek treatment from traditional folk healers. Although they also acquire western-type medicine and treatment, most

villagers are unlikely to have proper treatment from health professionals, and are often dissatisfied with local health services available in the community. Community health workers are unlikely to gain trust and cooperation from the villagers, which in turn adversely affects health programmes.

The description given in this chapter will provide a better understanding of future chapters dealing with the findings related to mothers' food and related practices, and infant feeding patterns.

CHAPTER SEVEN

FOOD CHOICES FOR WOMEN AND RELATED PRACTICES

This chapter is the first of two dealing with the findings of the study. Discussion will centre on food beliefs and practices for women during the childbearing period. Throughout the chapter data describing the experiences of particular women will be introduced to show how sociocultural factors can affect food behaviours of women during pregnancy and following childbirth. Although pseudonyms are used in building up a picture of food practices, the researcher has tried to maintain the uniqueness of the experience of the participants in the study. The quotations, however, are not taken verbatim from transcripts of tape recorded interviews, but from the researcher's reconstructions of what took place. Confirmation of these reconstructions was later sought with the participant when the researcher was not certain of the participants' actual words. Also reference back to information from the previous interviews was regularly made during the subsequent interviews in order to validate the data.

Study findings related to beliefs and practices associated with childbearing are presented in the following sections. In the first section information is presented which shows the traditional beliefs and practices held by the elders, when compared with current beliefs and practices these changes over time become apparent. The next section discusses the data concerning food beliefs and practices of pregnant women. This is followed by the data concerning food beliefs and practices during the postpartum and lactation periods. In the final section, the emerging themes are presented.

BELIEFS AND PRACTICES RELATED TO CHILDBEARING

Traditional beliefs and practices concerning childbearing are influenced by and related to motherhood, pregnancy, ante-natal care, childbirth, the first postpartum month, and birth control. Some of these beliefs and practices still persist. Others are changing. The researcher will present the data obtained from the elders concerning these beliefs and practices along with the data obtained from women who were pregnant during the period of the study.

Motherhood

From interviewing elderly women aged 50 and over who were currently married or previously married, it was found that most women had had more than five children with only a short spacing between each child. Motherhood was valued for various reasons. Most elderly women said that they could live without a husband but they

could not live without children. If a marriage broke down, children mostly stayed with the mother rather than with the father. According to these women, having children is beneficial to them not only because adult sons and daughters are expected to look after their elderly parents' material needs, but also because they may contribute to their spiritual wellbeing.

A 50-year-old woman who has five daughters said, *"My daughters don't allow me to do housework any more. They said that I had worked hard for a long time. They do all the housework and cook for me."*

* * * * *

A 60-year-old woman who has nine children said, *"My children help me work in the fields. They will look after me when I am old and they will cremate me when I die."*

* * * * *

A 55-year-old woman who has six daughters and one son said, *"My son was ordained as a Buddhist monk when he finished his schooling. He has gained merit for my next life."*

Currently, most women tend to have only one or two children. They state that the cost of bringing up a child today is much higher than it was because of the increase in the cost of living. Income today rarely covers daily expenses. When asked what they expect from their children, the majority of women said, *"I want them to grow up, finish schooling, get a job, be able to support themselves and look after me when I am old."* When asked whether they expect their sons to be ordained, most women agreed with the woman who said, *"I would be glad if my son was ordained but he doesn't need to be a monk all his life."*

Pregnancy

According to the elders, during their period of childbearing there was no health centre and access to the hospitals was difficult. Therefore, pregnancy was a crucial period. Once pregnant, the mother was told to be aware of the risk of miscarriage, long and difficult labour, and retention of the baby. Many women experienced miscarriages, particularly during the first trimester. Several women mentioned that some of their neighbours or relatives had died during labour. They were told by the traditional birth attendant that these women had had a severe haemorrhage due to the retention of the

baby. According to traditional beliefs, it was thought that these women must have had prohibited foods during pregnancy.

In order to avoid these hazards women were told by their elders to observe food taboos and avoid certain activities. A variety of foods were mentioned as being prohibited during pregnancy, including 'hua pli' (flower of the banana tree), as it was feared that the flower would blossom in the womb, thus obstructing labour. Sweet and oily foods were generally avoided due to the belief that they would make the baby too big to be delivered.

A 60-year-old woman who had experienced a long and difficult labour said, *"When I was pregnant with my first child I ate a lot of 'kanom whan' (a native dessert cooked from rice flour, coconut and sugar) because I craved it. I had labour pains for many hours. 'Mae jang' (a traditional birth attendant) tried many ways to help me. My first baby was quite big. So when I was pregnant again I dared not eat sweet and fatty foods because I was afraid of having a difficult labour again. I gave birth to another six children without any difficulty."*

With respect to activities that in earlier times were prohibited during pregnancy, it was believed that women should not stand or sit in a doorway, or stop half way up or down a ladder, or stop eating during a meal and go back to eat again. It was believed that such activities might lead to an interrupted or obstructive delivery. Other activities avoided by pregnant women due to the fear of miscarriage were: heavy work such as pulling water from a well and carrying a bucket of water; chopping firewood and carrying heavy loads. Even so, most women stated that they usually performed normal duties and worked in the fields until the labour pains began. They did not, however, perform heavy tasks such as those referred to above.

Traditional beliefs and practices concerning pregnant women still persist, and the fear of delivery hazards tends to perpetuate food prohibitions during pregnancy. A more detailed discussion of these food beliefs will be presented in a later section in this chapter.

Ante-natal care

According to the elderly women, they did not have specific ante-natal care because there was no health centre, and access to the hospitals in town was difficult. A traditional birth attendant was usually called only when labour pains began. Nowadays most pregnant women start attending ante-natal care when they are about 4-

6 months pregnant. Most poor women attend ante-natal care either at the subdistrict health centre or the district hospital where they pay only a small amount of money and in some cases, nothing. Those who are able to afford transportation and hospital fees attend the ante-natal clinic and give birth at the big hospitals in the city [the University Hospital or the Women's and Children's Hospital (WCH)]. These women seek information concerning the hospital fees and services from female relatives and female neighbours.

A 20-year-old woman who was pregnant with her first child and had attended ante-natal care at the University Hospital said, *"I want to give birth at this hospital because some of my neighbours and relatives gave birth there. They said that the 'mho' (obstetrician) was good. Anyway, I don't like going to see the 'mho' during pregnancy because every time I go, I have to wait for many hours. The 'mho' are so busy that I dare not ask them questions."*

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A 25-year-old woman, about 6 months pregnant, said, *"When I was pregnant with my first child 7 years ago, I went to see the 'mho' at the health centre when I was about 4 months pregnant. The 'mho' took the blood out from my arm and checked my abdomen. The month after I went to see the 'mho' again and she said every thing was fine. I was given medicine [iron tablets] but I often forgot to take it. My first son was born at the district hospital and the 'mho' told me that he weighed 2.6 kg. For this pregnancy I just went to see the 'mho' last week because my husband and I are very busy working in the fields. I had to wait for him to take me to see the 'mho' by motorcycle because our house is very far from the health centre. The 'mho' told me to come to see her again in the next couple of weeks but I'm not sure whether my husband will be available or not. Anyway, I hope that my baby will be alright."*

Childbirth

The old women reported that they had given birth at home assisted by 'mae jang' (a traditional birth attendant). The traditional position during the delivery process was that a woman would sit upon a plastic sheet on the floor, leaning against a rolled up mattress and pushing her feet against the wall of the house. The husband also helped by sitting upon the mattress over his wife's shoulder, so that she could grasp his hands or clutch onto his thighs when in pain. During a delivery there were often several people, mostly relatives and neighbours, visiting to see how things were going and to give verbal support. As soon as the baby was born, a birth attendant cleared its

throat with her finger to make it cry out and breathe. Then, the cord was cut with a sliver of bamboo and the baby was washed in warm, boiled water before being wrapped up in a piece of cloth. The mother was then washed with water and dressed in warm clothing.

Nowadays, most women prefer giving birth at the hospital. Most of the women agreed that, *"Giving birth in the hospital is more safe and convenient than giving birth at home."* However, home births still occur, mostly due to unexpected circumstances. Four months prior to the researcher's fieldwork, one of her informants gave birth to her sixth child at home assisted by her husband. She had labour pains during the night and gave birth before her husband could arrange transportation to take her to the hospital. During the 10 month period of the researcher's fieldwork, there were 10 babies born. Of these, all but one were born at the hospital. The woman who gave birth at home assisted by a traditional birth attendant said, *"I had pains around midnight. My husband couldn't get a minibus. We decided to ask my aunt who used to be 'mae jang' (a traditional birth attendant) to help me. My husband is very busy too because it's harvesting time. So if I gave birth at the hospital, he would have to accompany me and he wouldn't have time to work."*

Muecke (1976) studied the North Thai and Western ways of childbearing in urban Chiang Mai during 1973-1974. She reported that hospital delivery became available to the city poor in 1962, and by 1974 over one-third of her 363 urban informants had a hospital delivery. According to the women who participated in this research, they were adopting the Western model primarily because they perceived it as much safer, reducing the risk of death during delivery.

'Eu duan' period (the first postpartum month)

The postpartum period was, and still is a crucial period for women in Ban Dee. The first postpartum month is called 'eu duan'. 'Eu' means stay and 'duan' means a month. Idiomatically, 'eu duan' means to be in a period of restriction. A postpartum woman has to stay at home, preferably in a bedroom and observe prohibitions. It is believed that a postpartum woman is in a state of bodily imbalance because she has lost a large amount of blood and "air" during delivery. She not only has to prevent heat loss from her body but also has to prevent catching "cold" from the environment due to the belief that a "cold" body is susceptible to disease, particularly 'lom phit duan' (literally wrong menstrual wind illness). Accordingly, the woman has to keep warm by wearing a long-sleeved shirt, several lower garments, socks and a hat, regardless of the temperature outside, as shown in Plate 7.1. Cold, unboiled water is forbidden. As well, water used for bathing is boiled. However, too frequent bathing is not allowed, and hair may be washed only a few times during this period.



Plate 7.1: A postpartum woman

Apart from preventing heat loss from her body, the postpartum woman must avoid strong odours and avoid eating certain foods. It is believed that a newly delivered mother is at risk of becoming sick with 'lom phit duan'. According to the elders, the symptoms of this disease vary from headache, weakness, fainting, hand tremors, and loss of appetite, to paralysis, madness and even death. The most common causes mentioned are the eating of forbidden foods and the smelling of strong odours. According to Muecke (1979), 'lom phit duan' affects only women who have borne a child. She states that "wind illness" is not a diagnostic label of biomedicine. When a person seeks care for "wind illness" from a doctor, he/she is likely to go to an indigenous healer rather than to a physician because it is believed that physicians do not know how to treat this disease (Muecke 1979).

At present, the postpartum restrictions and food avoidances are still strictly practised by all postpartum women. Although giving birth at the hospitals, women practise 'eu duan' restrictions immediately after returning home.

Birth control

In earlier times, modern birth control methods were not available. The traditional method for birth control was 'tamhai modluk hang' (drying a womb). It was believed that dry womb helped to stop pregnancy because it became dry and shrunken. The rhizome of a shrub called 'pu lei' (zingiber cassumunar) was boiled with water for drinking to assist drying a womb. Water used for bathing was usually boiled with 'poa' leaves (hydnocarpus anthelmintica) for the same reason. Another method of drying the womb was 'rom ya' (inhalation of herbal medicine) which was usually carried out at the end of the first postpartum month.

As mentioned in Chapter Six [see p 127], a family planning programme has been available in Ban Dee since 1978. Nowadays, the majority of married women have access to birth control of a hormonal nature, via contraceptive pills or injection. However, postpartum women still drink 'nam pu lei', take a bath with water boiled with 'poa' leaves and practice 'rom ya', according to the advice of their elders.

Having described beliefs and practices associated with childbearing women generally, data concerning food beliefs and practices during the entire childbearing period will now be presented. The description begins with food beliefs and practices during pregnancy. Following this, food beliefs and practices during the postpartum and lactation periods are discussed. The finding will illustrate factors influencing these beliefs and practices as perceived by the participants.

FOOD BELIEFS AND PRACTICES DURING PREGNANCY

All informants stated that they were told by the elders to abstain from some kinds of food during pregnancy. While some women do not take the prohibitions seriously, other women do for various reasons. The husband's role and the role of health personnel concerning food practices are also discussed in this section.

Prohibitions not taken seriously

Women who did not strictly practice food avoidances gave the following reasons: feeling safe because of giving birth at the hospital; craving food; past experience from a previous child, and other women's experiences.

Sompong was 21 years old and had a 1-month-old baby. She said, *"When I was pregnant, my mother-in-law and my sister-in-law told me not to eat many sweets or oily foods. They said that the baby would be very big and difficult to deliver. Before giving birth I went to sell fruit at the subdistrict market every day. There were many kinds of sweets and desserts that I could not resist. So I ate a lot of desserts. I went to see the doctor four times before giving birth at the hospital [WCH]. The doctor didn't forbid me anything. I thought that I would be safe because the doctor was skilful. The elders also told me not to eat much chilli because it would cause anal pain. I ate some and I did not have anal pain."*

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Sri was 18 years old and was pregnant with her first child. She said, *"My mother and aunt told me not to eat many sweets and fatty foods but I can't resist eating them. My house is near the food market and I go to buy food every day. The doctor hasn't forbidden anything either."* Sri gave birth to her first son by vacuum extraction at the University Hospital. The baby weighed 3.5 kg. Sri's mother and aunt said, *"Sri's baby is very big because she ate too many desserts. Luckily she gave birth at the big hospital, otherwise either she or her baby might have died."*

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Nong was 19 years old and was pregnant with her first child. She said, *"My mother told me not to eat 'makhua kae' (solonum xanthocarpum or eggplant) as it might cause anal pain after delivery. But one of my neighbours told me that she had it when she was pregnant and she didn't have any problems. So I eat it. The doctor hasn't forbidden me anything either. I hope that I will be all right."*

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Pui was 19 years old and was pregnant with her second child. She said, *"When I was pregnant with Nhong, my first son, I was in Bangkok and I ate like this because of the variety of food. I gave birth to Nhong at the hospital in Bangkok too and I didn't have any problems. Now I eat what I want even though my mother told me not to eat many desserts and oily foods because I crave them. I think that I will be safe in the hospital as well."*

Prohibitions taken seriously

According to women who strictly observed food avoidance during pregnancy, factors influencing their beliefs and practices included fear of having a difficult delivery and complications after delivery; experiencing a miscarriage or a difficult delivery [prolonged labour] from the previous child; concern about age [too old for pregnancy]; and preparing to give birth at home. The influential persons are the women's elderly relatives.

Umphan was 22 years old and had an 11-month-old son. She said, *"I had a miscarriage once. So when I was pregnant again, I stopped going out to work in the fields and I obeyed my mother and mother-in-law about eating. I didn't eat much dessert or oily foods because the elders told me that such foods would make the baby too big to be delivered. I gave birth to my son at the hospital in town [the University Hospital] and he weighed 3 kg."*

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Nonglak was 26 years old and had an 8-month-old daughter. She said, *"I have been married for 5 years. I used birth control for 3 years and got pregnant 6 months after the last injection. My husband and I were very glad because we had waited for many months. I didn't eat many sweets and fatty foods during pregnancy because my mother told me that these foods might cause a difficult delivery as the baby would be too big. She said that I was quite old for the first pregnancy. I gave birth at the hospital [WCH] and my baby weighed 2.8 kg. I didn't have a difficult labour."*

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Thim was 33 years old and was pregnant with her second child. She said, *"When I was pregnant with my first daughter, Joon, I ate a lot of desserts because I like them. I had labour pains for several hours and Joon weighed 3.2 kg. Now Joon is 7 years old. I haven't used birth control since then and I didn't expect to have this pregnancy"*

because I am pretty old now. I haven't had many sweets and fatty foods during this pregnancy because I don't want to have a difficult labour like the previous pregnancy." Thim gave birth to her second daughter at the University Hospital with no difficulties and the baby weighed 2.6 kg.

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Sang was 22 years old and was pregnant with her second child. She said, *"I gave birth to my first daughter at home. I didn't have a difficult delivery. The 'mho' at the health centre told me to eat more meat and eggs but I did not dare eat them because I am afraid of having a big baby. I might give birth at home again because it's not convenient to give birth at the district hospital. We can't afford to go to the hospital in town either. So I try not to eat much and also avoid sweets and fatty foods. My mother also told me not to eat 'hua pli' (flower of the banana tree) as it would stick in the womb and I would have a difficult delivery."* Sang gave birth to her second daughter at home assisted by a traditional birth attendant with no difficulties. The baby weighed 2.8 kg.

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Naree was 34 years old and had three children. Her youngest daughter was 3 months old. She said, *"Whenever I was pregnant, my aunt told me not to eat 'hua pli' (flower of the banana tree), 'phak tamlung' (Coccinia indica). She said that such foods would stick in the womb and cause a difficult labour. She also told me not to eat 'makhua kae' (solonum xanthocarpum or eggplant) as it would cause anal pain. I didn't eat them, partly because I didn't like them much and also because there were many other kinds of foods I could eat. She told me not to eat much hot chilli either but I love chilli paste, so I often had it. I never had anal pain after delivery. I gave birth to all my children at the district hospital and I have never had a difficult delivery."*

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Ulai was 24 years old and had three children and the youngest daughter being 15 months old. She said, *"Whenever I was pregnant, my mother-in-law always told me not to eat many sweets and fatty foods. I seldom eat them because I don't like them much. My first and second daughter weighed about 3 kg when they were born."*

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Pen was 35 years old and had six children. Her last son was 4 months old. She said, *"I gave birth to my first three children at home. My fourth and fifth sons were born at the hospital. Actually, I intended to give birth to Kla, my last son at the district hospital, but Kla was born at home before his father could rent a minibus to go to the hospital. Whenever I was pregnant, I always avoided having desserts and oily foods because I was afraid of having a large baby which would cause a difficult delivery. I also avoided eating 'hua pli' because my mother said that it would stick in the womb and I would have a difficult delivery. Even though I do like chilli paste, I tried not to eat much during pregnancy because I was afraid of having anal pain after delivery."*

There is only one kind of food recommended by the elders for pregnant women, but not for any nutritional reason. Sompong said, *"The elders told me to drink a lot of coconut juice. They said that the baby would have fine skin because the baby's skin would not be covered with much 'khai' (vernix caseosa) and I found that that was true."*

Husband's perceptions concerning food for pregnant women

In most families women are the ones responsible for preparing food. The following opinions were expressed by particular husbands of my informants:

"We'd better obey the elders because they have a lot of experience."

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"We have a great variety of foods. So if one kind of food is not good for the pregnant woman then she'd better have some other kind of food instead."

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"It's up to the doctor. If the doctor says that it's alright to eat this kind of food, it should be alright."

Role of health workers with respect to pregnant women

As stated earlier, pregnant women in Ban Dee choose to attend the ante-natal clinic according to their preferences and economic status. In this section, the role of health service personnel concerning pregnant women will be discussed. This includes nutrition education and the perceptions of community health workers about food beliefs and practices during the pregnancy period.

Nutrition education

The informants reported that they are rarely given advice concerning food consumption by the health service personnel due to limited contact. If there is any food advice, it is likely to be ignored because of financial constraints, since the recommended foods are likely to be expensive.

Sompong attended the ante-natal clinic at the Women's and Children's hospital. She said, *"I went to see the doctor four times before giving birth. Each time the doctor was very busy because there were many patients. He just took my blood pressure and examined my abdomen. I dared not ask him any questions."*

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Nong attended ante-natal clinic at the University Hospital. She said, *"The doctor didn't forbid anything. She said that I was alright and just told me to eat whatever I wanted to eat. She was very busy. I was afraid to ask her any questions."*

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Ulai said, *"When I was pregnant with my last daughter, I often got sick and didn't eat well. The 'mho' (health personnel) at the health centre told me to eat more meat and eggs, but we could not afford to buy them very often. My last daughter weighed only 2.5 kg when she was born."*

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Kiew was 42 years old and was pregnant with her second child. Her first son was born prematurely 10 years previously. In the researcher's opinion, Kiew was thin and looked malnourished. Her abdomen was small for a 5-6 month pregnancy and she weighed only 40 kg. She attended the ante-natal clinic at the subdistrict health centre. She said, *"The 'mho' (health worker) said that I haven't gained weight well. She told me to eat more meat and eggs but we can't afford to buy them often. I also prefer vegetables to meat and I don't like desserts and oily foods much either."* Kiew gave birth to her second daughter at the University Hospital by caesarean section. The baby was also born prematurely and weighed only 1340 gm.

Most pregnant women stated that they rarely consumed extra amounts of high nutritional value foods such as milk, eggs and meat. They just had the usual amount. Only one woman mentioned about having soya bean milk.

Sri said, *"I have soya bean milk quite often. I buy it from the morning market. My sister who is a practical nurse told me that it's good for the baby."*

This suggests that family relationships and authority had some impact on changing the eating habits of pregnant women.

Community health workers' perceptions of food beliefs and practices during pregnancy period

Community health workers are unlikely to endeavour to promote good nourishment of pregnant women. Volunteer health workers who live close to the women, do not have any beliefs or opinion that differ from those of their fellow villagers.

One of the staff of the health centre said, *"It's very difficult to change their beliefs because the women often listen to their elders rather than listening to us. Anyway I have found that most of the women who come to see me are alright and seldom have complications. So I don't take this matter seriously. I give them vitamins and minerals [Multivitamin or Vitamin B complex or Ferrous sulfate] but I don't know whether they take them or not because I have no time to visit them at home."*

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The VHV [see pp 79-80] who is also an indigenous folk healer said, *"Pregnant women should avoid some kinds of food. I have heard that some women had a long labour because the babies were very big."*

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A 25-year-old woman who is one of the VHCs [see pp 70-71] said, *"I was afraid to eat many sweets and fatty foods when I was pregnant because I was afraid of having a big baby. The elders said that a big baby might be difficult to deliver."*

FOOD BELIEFS AND PRACTICES DURING THE FIRST POSTPARTUM MONTH AND LACTATION PERIOD

Before proceeding to the account concerning food beliefs and practices during the immediate postpartum month and lactation periods, a description is given of how postpartum women are supported and cared for by their close relatives.

Kinship support during early postpartum period

Of the 18 informants, 16 stated that they were actively helped and cared for by kinswomen during the first postpartum month. This help and care included food preparation and advice on food practices. Two mentioned that they had only partial support and advice from kinswomen. These kinswomen were their mothers, husband's mothers, aunts, husband's mother's sisters, sisters, and brother's wives.

Strong support from kinswomen

Nong had a 5-day-old son. She said, *"My mother has stopped going out to work since I came back from giving birth at the hospital and stays with me during the day. She helps me and advises me on how to feed and care for the baby, and prepares foods for me too."*

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Sri had a 2-week-old baby. She said, *"The first week after delivery, either my aunt-in-law or my sister helped me and bathed the baby because I was not strong enough. My mother prepares food for me. My mother-in-law also visits me when she is free from work."*

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Nonglak had an 8-month-old daughter. She lived in the same house as her parents. She said, *"During the 'eu duan' period my mother helped me and advised me on how to care for the baby. She either cooked or bought foods for me."*

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Somsri had an 11-month-old son. She said, *"My mother used to be a traditional birth attendant. I gave birth at the district hospital. During the 'eu duan' period, my mother*

either cooked or bought foods from the market for me. She said that many women in our village had suffered from 'lom phit duan' (wrong menstrual wind illness) because they did not restrict the types of food they ate during the 'eu duan' period."

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Pin had a 10-month-old son. She said, *"My house is far from my parent's house so during the 'eu duan' period I stayed at my parents' house. My mother and grandmother looked after me and helped me take care of the baby. My mother cooked for me, too."*

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Sompong had a 28-day-old daughter. She said, *"During the 'eu duan' period, either my mother-in-law or my sister-in-law stayed with me during the day. They helped me and advised me on how to feed and care for the baby. They told me what I should and should not do during the period, and told my husband about the food I should and should not eat."*

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Tamol had a 1-week-old baby. After delivery, her mother-in-law who lived in another village, stayed with her. Tamol said, *"My mother is not well. She often visits me and gives me advice but she can't help me much because she gets tired easily. My mother-in-law offered to stay with me. She cooks for me and helps me to bath the baby."*

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Umphan had a 9-month-old son. She said, *"My house is close to my parents-in-law's house. During the 'eu duan' period my mother-in-law helped me look after the baby and cooked for me."*

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Umpai had a 14-month-old daughter. She said, *"During the 'eu duan' period my mother-in-law, who lived in another village, came and stayed with me. She prepared foods for me and helped me look after the baby. My mother also visited me when she was free from work."*

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Naree had three children. Her mother died several years ago. She said, *"My aunt stayed with me and helped me during the 'eu duan' period. My mother-in-law also visited me and gave me advice even though we hadn't got along well."*

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Buapud was disabled. According to her father, when she was young Buapud was seriously ill and was hospitalised for about a month. When she returned home, Buapud was not able to walk properly, and her hands always trembled so that she could not hold things tightly. She had a 1-week-old son but she had no husband. The researcher was told by her neighbours that her child was conceived when she was raped. Buapud lived with her father and two unmarried brothers, and her married sister lived not far away from them. She said, *"My sister helps me and tells me how to nurse and care for the baby. She baths the baby because I can't hold him properly. My brothers cook for me. My father and sister told them what I should and should not eat."*

Minimal support from kinswomen

Two women were helped by their kinswomen but not very actively. Thim, her husband and her first daughter moved to their new house which was located far away from their relatives. Thim's mother lived in another town. Thim gave birth to her second daughter during the harvest season. Although her mother-in-law was very busy working in the paddy fields, she visited Thim at least once a day. Thim's husband was a school teacher. She said, *"We live far away from our relatives. They rarely have time to visit us. My brother visits me quite often but he just provides companionship. I mostly care for the baby by myself. When I gave birth to my first daughter seven years ago we were often visited by our relatives because we lived in the same compound. They helped me look after my daughter when they were free from work."*

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Pui, her husband and her first son, lived in a vacant house which belonged to one of her relatives. The house was some distance from her parents'. Pui's mother was a trader and the job always kept her busy. Her mother-in-law lived in Bangkok. Her husband went to work as a hired labourer almost every day. A few days before Pui gave birth to her second child, her first son was sent to a day-care centre. Pui said, *"I am due to give birth soon. No one is available to look after Nhong, so I have to send*

him to 'rong-rien' (a day-care centre)." During the 'eu duan' period, Pui said, "My mother visits me in the evening. She bathed my baby for the first few days. Now I can do it by myself. My mother told me about the food I should and should not eat but she hasn't got time to prepare food for me. My husband cooks for me when he returns from work in the evening."

Husband's support

Apart from assistance from kinswomen, many postpartum women are helped by their husbands during the first postpartum month.

Many women made comments which were similar to this one: *"My husband helps me a lot. He washes clothes for me and my baby before he goes out to work. In the evening he boils the water for me to have a bath and cooks for me. If the baby wakes up during the night, he also wakes up and helps me hold the baby."*

What is evident from the field data is that most postpartum women are helped and well cared for by their kinswomen and husbands. Kinswomen play a major role in not only attending to the mother and her baby and offering advice, but also in preparing food for women during this period.

Food avoidances during the first postpartum month and lactation period due to concern for the mother's health

As stated earlier, during the postpartum and lactation periods, women avoid some types of food due to the fear of becoming sick with certain illnesses. These include: 'lom phit duan' (wrong menstrual wind illness); 'leard sia' (bad smell or foul lochia).

'Lom phit duan' (wrong menstruation wind illness)

The fear of being sick with 'lom phit duan' is the major reason for food prohibitions during the postpartum period. This belief has been passed on by elderly kinswomen.

Most postpartum women agreed with the informant who said, *"The elders said that I have to be careful about the food I eat and avoid strong smells, otherwise I might get sick with 'lom phit duan'."*

Nowadays, although western type medicine is widely accepted and the access to the hospital is easier than it was in earlier times, the fear of 'lom phit duan' still persists.

Most women stated that they ate what they were served in the hospitals but started observing food prohibitions immediately after returning home. Many women agreed with the woman who said, *"The elders said that 'lom phit duan' could occur at any time as we become older and no doctor could cure it. Once one is sick with 'lom phit duan' she will never be cured, and her husband may run away from her because he would not want to stay with one who is always ill."* Certain types of food mentioned as the most frequent causes of the illness are; beef, frog meat, crab paste and 'pla duke' (a certain type of fresh water fish).

The fear of being sick with 'lom phit duan' persists even after the postpartum period is over. When the 'eu duan' period was over, Sri and her family moved to live with her uncle and aunt-in-law at the food shop and Sri, helped them do the dishes. She said, *"I wanted to have noodles with beef meatballs but the elders said that beef contained "poison". So I dare not eat it because I am afraid of being sick with 'lom phit duan'. I have noodles with pork instead."*

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Sang gave birth at home and strictly practised 'eu duan' restrictions. When the 'eu duan' period was over, she said, *"Now I can have curry sauce, pork, chicken, beans, bamboo shoots and Chinese cabbage but not beef and catfish because the elders said that there is "poison" in beef and catfish which would cause 'lom phit duan'."*

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Some women mentioned that their kinswomen had died of this sickness. Kiew was 42 years old when she had her second daughter. She said, *"I have to practice 'eu duan' restrictions strictly because I am afraid of being sick with 'lom phit duan' and I am very old now. One of my older sisters died of 'lom phit duan' a few years ago because she smelt the strong smelling soap and fainted. My mother said that she had eaten beef when the 'eu duan' period was over."*

By the end of the 'eu duan' period, Kiew said, *"Now I can have a greater variety of foods. Anyway I always ask either my mother or sisters before having any foods. Yesterday my son bought 'kanom klua' (rice cake wrapped in banana leaf) from the food market. My mother told me not to eat it because it might cause 'phit tong' (banana leaf affliction) which would cause 'lom phit duan' later on."*

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Naree had three children and her last daughter was 3 months old. She said, *"After giving birth to each child, I strictly practised 'eu duan' restrictions because I was afraid of being sick with 'lom pit duan' like my mother. My aunt told me that my mother died one year after giving birth to my brother because she smelt 'kang fak' (curry cooked with chicken and melon) from our neighbour's house. After that she fainted very often and ate less than she did before. She also ate 'nam pu' (crab paste) after the 'eu duan' period and she had been seriously ill for several months before she died."*

Some women mentioned the experiences of other women. Sompong said, *"My mother-in-law said that one of our neighbours had been sick with this illness for many years because she had noodles with beef meat balls when the 'eu duan' period was over."*

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Pui said, *"I won't eat beef because I have met some women who have suffered from 'lom phit duan'. They told me that they ate beef when the 'eu duan' period was over."*

'Leard sia' (bad smell lochia or foul lochia)

The fear of having 'leard sia' after giving birth was mentioned by two women who gave birth at home. They strictly restricted the types of food during the early parts of the postpartum month.

Sang had two daughters. The researcher visited her the day following the birth of her second daughter. She said, *"I have had only 'koa ji' (roasted sticky rice) and salt or 'kab mu' (fried pork skin). The 'leard' (lochia) is still flowing heavily. I won't have meat until the 'leard' flows lightly because the elders said that meat has blood which could cause 'leard sia'."*

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Pen had six children and her last son was 4 months old. Pen gave birth to the first three children at home and gave birth to the fourth and fifth son at the district hospital. Kla, her last son, was also born at home. She said, *"I always restricted the types of food I ate during the 'eu duan' period, especially after giving birth at home because I hadn't had any medicine except 'nam pu lei' (water infused with rhizome of zingiber cassumunar). My mother also told me to practice 'eu duan' restrictions strictly. I usually had only 'koa ji' (roasted sticky rice) and salt for a week or until the 'leard' flowed lightly. When the 'leard' stopped flowing I was allowed to have 'nua mu ping' (grilled pork)."*

Food avoidances during the first postpartum month and lactation period due to concern for the infant's health

Apart from their own health, mothers observe food taboos in order to protect the health of their offspring. It is believed that the food a mother eats can be transferred to the baby through her breast milk, and thus cause the infant to be sick. A mother is not allowed to have 'namkang' (curry juice), which is considered as "wet or watery" food, until a baby's cord drops off. It is believed that "wet or watery" food could make a baby's navel 'noa' (become wet and infected).

Most women agreed with the woman who said, *"After delivery, I had only 'koa ji' (roasted sticky rice) with 'nua mu ping' (grilled pork) or 'kab mu' (fried pork skin) until the baby's cord dropped off. I was not allowed to have 'nam kang' because the elders said that watery foods would make the baby's navel 'noa'."*

Some women were constipated after giving birth. Sompong said, *"I had not moved my bowels for a few days after delivery. I had some oranges but not long after that, my baby had loose stools and my breast milk seemed to have a yellow colour so I stopped eating the oranges and had an enema instead."*

Some women said that they got bored with the food they were allowed to eat but they had no alternative because they were not allowed to cook for themselves during the postpartum month and they were encouraged by their elderly relatives to continue abstaining.

Tamol said, *"I have had only rice and grilled pork or fried pork skin for a week. I am getting bored right now."* Tamol's mother-in-law who stayed with her during the 'eu duan' period said, *"You must be patient. The baby's cord will drop off soon. Then you can have some kinds of curry."*

After the baby's cord has dropped off or at least by the middle of the 'eu duan' period, women are allowed to have a greater variety of foods such as chicken, eggs, bamboo shoots, and certain kinds of vegetables including plain curry. However, sour foods and pickled foods such as hot chilli and fermented fish which are common in northern Thai cuisine are prohibited for lactating women as it is believed that such foods cause abdominal disorders, particularly loose or watery stools in infants.

Sri said, *"Now I am allowed to have a greater variety of foods but not hot chilli, sour foods or pickled foods because I breastfeed my baby. He sometimes has loose stools"*

even though I haven't had any of those foods. I crave 'som tum' (papaya salad) but I have to wait until he is weaned."

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Sang said, "I am afraid to eat hot chilli, sour foods and pickled foods because my baby has just recovered from having watery stools even though I have never had any hot or sour foods since she was born."

Some mothers mentioned experiences that confirmed their beliefs. Sompong's daughter, Som, had loose stools when she was 2 months old. Sompong said, *"Yesterday evening I had just a small amount of pickled cabbage and Som had loose stools late in the night. So I won't have it anymore."*

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Buapud said, *"Yesterday I ate 'pla tong' (a kind of fish) and my son cried a lot during the night. My father said he had 'jeb thong' (a stomachache) because I ate 'pla tong'. So my father told me not to eat it any more."* Buapud's father said, *"I don't know much about what Buapud should or should not eat. I always ask people about it. Buapud's mother died several years ago. I have to look after her instead."* Buapud's sister said, *"A breastfeeding mother must not drink water immediately after eating because it will make the foods go into the milk quickly and the baby might have 'tong sia' (loose or watery stools)."*

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Thim said, *"Now I can have a greater variety of foods but I am afraid to eat hot chilli, sour foods and pickled foods because when my first daughter, Joon, was young, she had loose stools after I had just a small amount of lemon juice."*

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Pen has six children. She said, *"I usually breastfed each child until they were at least one year old. When they were less than 6 months old, I could not have much hot chilli and dared not have sour foods or pickled foods because the baby often had 'tong sia' after having my breast milk."*

However, some women did not strictly avoid certain types of food believed to be the cause of infant sickness. This was because they had the experiences of eating the foods after giving birth to their previous children.

Thim had two children and her second daughter was 2 weeks old. She said, *"My mother-in-law told me not to eat curry sauce before the baby's cord dropped off but I had it once because I got tired of 'nua mu ping' (grilled pork). I also had some curry sauce after giving birth to my first daughter and the baby's navel was not wet."*

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Pui had two children. She and her husband had lived in Bangkok for several years and her first son was born there. Her second son was 10 days old. She said, *"My mother told me not to have chicken yet. She said that I'd better wait until the end of the 'eu duan' period but I got bored with grilled pork. I used to have chicken after giving birth to Nhong, my first son, and I was alright."*

Food/drink recommended by the elders during the early postpartum period

Some kinds of food and drink are recommended by the elders but the nutritional reasons are not explicitly mentioned. Sri said, *"The elders told me to drink 'nam pu lei' (water infused with rhizome of zingiber cassumunar) during the 'eu duan' period. They said that it would help to dry the womb and keep the milk flowing."*

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Tamol said, *"One of my neighbours told me that 'kang hua pli' (curry cooked from flower of banana tree) would make the milk flow well."*

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Kiew's baby was born prematurely and was kept in the hospital for 27 days. Kiew's breast milk gradually dried up. She said, *"My mother and sisters told me to keep the milk flowing by drinking 'nam pu lei' and water boiled with jackfruit stalk."*

Husband's role concerning postpartum and lactating women

During the first postpartum month, a husband usually takes most of the responsibility for household chores. Some also prepare food for their wives but they often rely on the elder's advice. As a group the husbands did not have any beliefs or opinions that differed from those of their elders, as is evident from the following comments:

"The elders said that if a woman is sick with 'lom phit duan' she would not be cured. We'd better obey the elders because they have a lot of experience, otherwise if a mother or a baby is sick, we would be blamed."

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"A 'eu duan' period is not long. When it's over a woman can have more kinds of food."

Roles of health workers with regard to postpartum women

Generally a woman has a post-natal check-up at the hospital or the health centre at the end of the sixth week after delivery. As happened during pregnancy, most women are given only a physical examination. Health education is rarely given, although more frequently brief advice about nutrition may be offered.

Advice from health personnel

Advice concerning food practices is likely to be impracticable and often does not work for the women.

Sompong said, *"When I took Som to be vaccinated the other day, the 'mho' at the district hospital told me to drink milk and eat more meat and eggs. She said that milk, meat and eggs are good for me and my baby because I breastfeed my baby. I haven't had milk for a long time. When I had it the other day I had loose stools afterwards. So I stopped having it. Anyway, I try to eat one boiled egg every day."*

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Sri said, *"The 'mho' at the health centre told me to eat meat and eggs but we can't afford them usually. I just have whatever my uncle and aunt-in-law have because my husband can't earn much money."*

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Thim was 32 years old. She said, *"My breast milk hasn't flowed well. The 'mho' at the health centre told me to eat more meat and eggs. I eat one egg every day but the milk still doesn't flow well. Perhaps it's because I am quite old."*

Perceptions of the community health workers about food for women during the postpartum and lactation periods.

Health service personnel who work in the community have limited contact with postpartum women. They do not take action seriously on the promotion of maternal nutrition. The villagers who act as village health workers view traditional food beliefs and practices as necessary for women during the postpartum and lactation periods.

One of the staff of the health centre said, *"I usually tell them there is no need to avoid any food after giving birth. But I know that they still avoid some foods because they obey the elders. I haven't got time to visit them at home. So I don't know exactly what they actually eat. Anyway, their babies seem to be alright."*

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The VHV [see pp 79-80] who is also an indigenous folk healer said, *"I also believe what the elders say about food avoidances because I have seen some women suffer from 'lom phit duan'. So I think that a post-natal woman should avoid some kinds of food."*

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A 30-year-old woman who is one of the VHCs [see pp 79-80] said, *"When I gave birth I also avoided some foods because I didn't want to be sick with 'lom phit duan'."*

SUMMARY AND CONCLUSION

In this chapter the major findings and themes which emerged from the analysis of data obtained from participants are reported. The discussion has focused on food beliefs and practices of women during pregnancy, postpartum and lactation period. Several common themes emerge.

First, traditional beliefs continue to influence food behaviours of women during pregnancy. However, the pattern of beliefs and practices is changing. As well, the

influence of mothers or mothers-in-law is strong but not all powerful. Some women take the food prohibitions seriously but others do not for various reasons.

Women who take prohibitions seriously believe that prohibited foods will cause miscarriage, difficult labour, or complications after delivery. This belief has been passed on through generations by traditional birth attendants who experienced these complications while assisting delivery, and women who had experienced these hazards themselves, at a time when western-type medical service was inaccessible. Sweets and fatty foods are avoided as it is believed that these foods would make a foetus too big which may lead to a difficult labour. Certain kinds of vegetables are prohibited owing to the belief that their physical features may lead to obstructed labour. The difficulty in delivery is described as a prolonged labour process and a retention of the baby. The latter may lead to a severe haemorrhage and even cause death. This belief is still reinforced currently by pregnant women who have experienced a miscarriage or a prolonged labour with the birth of their previous child. Despite attending an antenatal clinic, these women practice food avoidances strictly.

Women who do not take food prohibitions seriously and prepare to deliver in the hospital state confidence in the hospital service as the main reason for their food practices. Other contributing factors are food craving; the experience of giving birth to a previous child; and other women's experiences. Food craving is influenced by food accessibility and availability. In addition, these women are likely to have had more contact with the outside world than other women, which may influence them to exercise more freedom in food practices. This practice is confirmed when these women give birth without difficulty. As well, the experience of kinswomen and neighbours who do not strictly practice food prohibitions but have no difficulty during labour reinforces their beliefs and practices.

Second, various kinds of food are prohibited during the postpartum and lactation periods due to the belief that consuming such food would cause either the mother or infant to become ill. With regard to the mother's illness, it is believed that a postpartum woman is susceptible to a certain type of disease, 'lom phit duan' (literally wrong menstrual wind illness), which affects only women who have borne children. The basis of this belief is that a postpartum woman is in a dangerous state of bodily imbalance because she has lost a large amount of blood and "air" during the labour process. She has to prevent heat loss from the body as well as preventing catching "cold" from the environment because a "cold" body is susceptible to the disease. It is believed that once a postpartum woman catches "cold", the "air" or "wind" will rise to her head and cause the illness.

Avoiding certain types of food during this period is believed to help prevent this disease. Prohibited foods are considered as containing "poison" which would cause the imbalance of the "air" or "wind" in the body. The avoidance of certain types of food may persist beyond the first postpartum month, due to the belief that the disease could occur at any time when women become older, and that no doctor could cure it. It is said that once a woman is sick with the illness her husband may abandon her because she will never be cured. This belief is reinforced when the women are told that their kinswomen or neighbours suffered or died because of this illness.

With respect to infants, it is believed that prohibited foods would cause certain types of sickness. The basis of the belief is that the foods a mother eats are transferred to a baby through her breast milk. Thus, the physical properties of food are thought to be related to the illness. However, the practice of food avoidances in respect to the infant's health varies according to the mother's experience. Mothers who have personal experience of their infants being ill tend to take food prohibitions seriously throughout the lactation period. Others who have never encountered the problems are unlikely to practice food prohibitions strictly.

Third, it is evident that most postpartum women receive strong support and assistance from kin and husbands during the weeks following childbirth. Elderly kinswomen provide companionship, give advice concerning postpartum practices, and prepare food for the women. Husbands help by taking most of the responsibilities for household chores, and help prepare food according to kinswomen's advice. In this way, food consumption of women during the postpartum month is largely determined by kinswomen who strongly hold the traditional beliefs.

Fourth, food practices of women during pregnancy and following childbirth are unlikely to be influenced by education about nutrition provided by health workers. Despite attending ante-natal clinics, pregnant women seldom receive nutritional advice because of limited contact and the deferring attitude. Similarly, postpartum and lactating women have little chance to receive advice because they have to stay home during the first postpartum month, and the community health workers seldom make home visits. If advice is given it is unlikely to be compatible with traditionally held food taboos, their economic resources, and their physiological condition.

In the following chapter, the data concerning infant feeding patterns which include breastfeeding, artificial feeding and weaning practices will be presented.

CHAPTER EIGHT

INFANT FEEDING PATTERNS

In this chapter the second part of the findings of the study will be presented. Discussion in the previous chapter concentrated on food beliefs and practices of women during the childbearing period. In this chapter, infant feeding patterns which include breastfeeding, artificial feeding and weaning practices will be described. The chapter includes excerpts from the women's stories which illustrate how sociocultural factors influence infant feeding patterns. Extracts from the field notes are used here in an effort to convey the unique characteristics of the participants in the study. However, as noted in the previous chapter [see p 130] these are the researcher's reconstructions of the interviews rather than direct quotations.

Study findings related to beliefs and practices associated with infant feeding are presented in the following sections. In the first section information is presented which shows traditional beliefs and practices held by the elders. The next section contains the data concerning breastfeeding which illustrate how particular women establish breastfeeding. This is followed by the data concerning breastfeeding and/or artificial feeding including early introduction of solid foods. In the fourth section the data related to weaning practices and infant care during late infancy are described. The fifth section contains information concerning role of health workers in relation to infant feeding. In the final section the emerging themes are presented.

TRADITIONAL INFANT FEEDING PRACTICES

Before proceeding to describe present beliefs and practices relating to infant feeding patterns, a brief description of traditional feeding practices will be presented. Some of these beliefs and practices still persist, and others are changing. Data were obtained from the elders in order to provide background against which to better understand present-day practices.

According to the recollections of elderly women aged 50 and over, for the first few days after delivery both the mother and the baby were encouraged and helped to sleep and have as much rest as possible. They mostly stayed under a mosquito net, and the environment was kept quiet. If the baby cried during this time, it was fed boiled water

with a spoon. Wet nursing was rarely practised. It was believed that a baby would not be hungry during the first few days. In response to questioning, most of the elderly women stated that they did not know about colostrum or its advantages to the newborn infant. They did not express the traditional belief that colostrum was "no good" or "poison", but did say that "good" breast milk was white and 'khooṇ' (opaque). Thus, breastfeeding was delayed until 2-3 days following birth. Despite the belief about "good" breast milk, a mother who did not yield "good" milk during the early lactation period was not told to stop breastfeeding, unless she was seriously ill. Thus she still breastfed because it was believed that the "good" milk may come in at any time. The lactating woman was encouraged to drink boiled water [water infused with either zingiber cassumunar or jackfruit stalk] to make the milk flow well. According to the old women, milk powder and milk formulae were not available in their time.

Apart from breastfeeding, infants were fed pounded sticky rice mixed with mashed banana as early as 5 days old. It was believed that rice would make the child sleep well and grow well. By 3 months of age approximately, a feed of breast milk was replaced by rice at least twice a day.

Infants were nursed on demand both day and night until they were about 5-6 months old, at which stage the mothers resumed working in the fields and these infants were then not breastfed during the day. Apart from that, they were mostly fed pre-masticated foods until they were able to chew food on their own. Traditionally, infants were breastfed for 1-3 years unless the mothers became pregnant again. A 60-year-old woman who has nine children said, *"I had had no period [menstrual] after giving birth to my fourth child, and I became pregnant 3 months later. I weaned my fourth child when he was 6 months old because the elders said that breast milk is not "good" while one is pregnant. My fourth son became 'yhad' (become thin) after weaning because he didn't eat much rice and often got sick. There was no milk powder like today. I sometimes took him to my sister's house to be nursed but my sister's breast milk did not flow well either. He was seriously ill when he was about one and a half years old and eventually died."* Similar situations were shared by two other elderly women who have had ten and twelve children respectively. They mentioned that some of their children died after being weaned for the same reasons.

Summary

In earlier times all newborn infants were breastfed and milk formula was not available. However, the baby was not put to the mother's breast until 2-3 days after birth. In addition to breast milk, infants were fed with solid foods, rice in particular, at a very early age. In general, most infants were weaned from breast milk after 1 year of age unless the mother became pregnant again before that time.

BREASTFEEDING IN BAN DEE

In the present study infants are virtually all breastfed or at least the mothers attempt to initiate breastfeeding. This is consistent with literature cited on page 20. When asked about the first milk, colostrum, the majority of women did not know about it and its advantages. No one stated that it is deliberately expelled. However, it is still believed that "good" breast milk is white and 'khoon' (opaque), and as the mothers often squeeze the breast when they feel tense, colostrum is probably discarded.

The breastfeeding style is of interest. A mother nurses an infant whenever she feels he/she needs food and cries or is restless. Breastfeeding takes place frequently throughout the day and continues during the night as mother and infant sleep side by side, often with the infant falling asleep at the mother's breast, sucking intermittently without waking her. When very young, the infant's head is supported during breastfeeding but by the age of 7-8 months, the infant, lying across the mother's lap, is expected to find the breast by him/herself. This leaves both mother's arms free for other tasks, which means that nursing the baby need not interrupt her work. Nursing is not considered to be a private activity. As it is not considered dangerous for infants over 1 month old to go outside, women usually take babies to visit neighbours and nurse them without embarrassment. The breast is also used as a pacifier and the nipple is put into a baby's mouth almost as soon as he or she begins to cry.

Breastfed babies are nursed both day and night until about 5-6 months of age. Once a child accepts pre-masticated food well, the mother usually goes back to her work in the fields or the market, which means that she may leave the infant for several hours or all day. The baby is nursed before the mother goes out to work and after she returns home. During the day the infant is fed and cared for by other persons, usually the grandmother. There are a few mothers who stop working away from home so that they can take full care of their infants and nurse them until the babies are completely

weaned. These are women who have no close relatives to take responsibility for children during the day time.

Factors contributing to the establishment of breastfeeding

Various factors contribute to breastfeeding during the initial period. While some factors promote successful lactation, others are unlikely to be beneficial to breastfeeding practices. In this section, excerpts from accounts of experiences of particular women will illustrate how these factors influence the establishment of breastfeeding .

Sompong gave birth to her daughter, Som, at the Women's and Children's Hospital (WCH) and returned home 3 days after delivery. She said, *"The second day after delivery, I felt a little bit full and the nurse told me to put the baby to the breast. Som sucked well but the milk didn't flow and she cried. So the nurse gave me a bottle of milk to feed her. My husband and I are afraid that Som might get used to the milk in a bottle and would refuse my breast milk. So my husband bought a tin of milk powder and a bottle too. When we returned from the hospital, my mother-in-law and sister-in-law told me to keep putting the baby to the breast until the milk came in that evening and Som sucked very often during the night."* During the postpartum period Sompong had visits from neighbours and relatives who had breastfeeding experience. Sompong said, *"Many women said that my breast milk is good for my baby because it is white and 'khoon' (opaque). It will make a baby grow well."*

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Sri gave birth to her first son at the University Hospital by vacuum extraction and returned from the hospital on the fourth day after delivery. She said, *"The nurse told me to put the baby to the breast on the second day but my breast milk didn't come and I didn't feel full either. So my baby was given a bottle. Yesterday [the third day] I felt a little bit full but the nurse told me not to put the baby to my breast because I had a fever. When we arrived home this afternoon, my breasts felt quite full. My mother and aunt-in-law told me to keep putting the baby to the breast and pump the milk out. My baby has sucked well and now the milk flows quite well. I am glad because we can't afford to buy milk powder. It's very expensive. Breastfeeding is convenient. We don't need to prepare it."*

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Tamol gave birth to her first child at the hospital [WCH] and returned home on the third day after delivery. She said, *"The second day after delivery, I felt a little bit full. The nurse told me to put the baby to my breast but the milk didn't come. The nurse gave me a bottle of milk to feed my baby. I sometimes squeezed my nipples but nothing came out. I was afraid that my baby would be hungry if my breast milk still hadn't flowed when we returned home, so I asked my husband to buy a tin of milk powder for her. When we arrived home, my mother and mother-in-law told me to put the baby to the breast again, and luckily the milk started to flow. My husband and I were very pleased because I want to breastfeed my baby."* During the first few weeks of the postpartum period, Tamol's mother-in-law, who lived in another village stayed with her and helped her to look after the baby. Tamol's mother and sister also visited and gave her advice. Her neighbours and friends were also frequent visitors. Tamol said, *"My breast milk has flowed well and it's white and 'khood' (opaque). My baby sucks well too. The elders and my neighbours said that she likes it because it's sweet. They told me to keep drinking 'nam pu lei' (water infused with rhizome of zingiber cassumunar) to keep the milk flowing."*

Even though some mothers had anatomical problems concerning breastfeeding or physical disabilities, they attempted to breastfeed. They were advised and encouraged by kinswomen and female neighbours who had experience in breastfeeding.

Nong gave birth to her first son at the University Hospital and returned home on the third day after delivery. Her breast milk started to flow the day she returned home but her nipples were slightly flat. She said, *"My baby cannot grasp the nipple properly. So he cries when he hasn't had enough. My mother told me to use my fingers to draw the nipples out and keep putting the baby to my breast. One of my neighbours said that she also has flat nipples and she often drew the nipples out until the baby could grasp properly. She breastfed her son until he was 1 year old. I'll keep trying to breastfeed my baby because it's convenient. I can nurse him whenever he wants. My husband also wants me to breastfeed and look after my son at home too. Milk powder is very expensive. We can't afford it."* A few days later Nong was able to manage breastfeeding well. When the researcher left the field, Nong's son was 10 days old.

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Buapud was a disabled woman. [For further detail see Chapter Seven, p 145] She gave birth to her first son at the district hospital and returned home on the second day after delivery. Buapud's breast milk started to flow the night she returned home. As Buapud's hands always trembled, she had difficulty in holding the baby. She said, *"I*

can't hold his head and put him to my breast properly. So my sister told me to lie down by him and push the nipple into his mouth." She had gradually gained skills in holding the baby and a few weeks later, she was able to hold the baby's head properly. Buapud had support and encouragement from her father, sister, brothers and neighbours. She said, *"My sister, father, brothers and my neighbours told me to keep practising holding and nursing the baby."*

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Ulai had three daughters. She said, *"When I gave birth to Waew, my first daughter, my nipples were flat. Waew was bottle-fed with milk powder for only 3 months. Then we had to feed her with canned milk [sweetened condensed milk] instead, until she was about 7-8 months old because the milk powder was very expensive. When I was pregnant with Whan, my second daughter, my mother and my mother-in-law told me to use my fingers to draw the nipples out frequently and when Whan was born I was told to keep putting her to my breasts. So Whan was breastfed until I got pregnant with Wan, my third daughter. I have breastfed Wan until now."* Ulai's third daughter, Wan was 18 months old.

Summary

The establishment of breastfeeding is dependent on various factors and conditions. After giving birth at the hospital most women attempt to initiate breastfeeding, but they are not strongly encouraged and helped by health service personnel. Some first-time mothers state that the hospital routine of bottle-feeding may lead to an infant liking the artificial formula. Thus, they bring home a bottle and infant formula. The success of breastfeeding during the initial period is dependent largely on support from kinswomen. During the first few weeks following childbirth, most breastfeeding mothers are provided with companionship by their mother or mother-in-law or other female members of the extended family who provide assistance in infant care and advice. These kinswomen are seen as a valuable source of assistance with infant care as well as a major source of information about problems associated with lactation, and in this way encourage mothers to breastfeed. As well, advice and encouragement from neighbours with breastfeeding experience is important. Some of the husbands contribute to the success of breastfeeding by encouraging their wives to breastfeed. Breastfeeding mothers view breastfeeding favourably as it is convenient for them because it is available all the time and it does not need to be prepared. In addition, poor mothers see breastfeeding as having economic advantages.

BREASTFEEDING AND/OR ARTIFICIAL FEEDING INCLUDING EARLY INTRODUCTION OF SOLID FOODS

Although most women initiate breastfeeding, the duration of breastfeeding varies for a number of reasons. Some mothers introduce bottle-feeding when the infants are less than a month old, while others wait until the infants are at least 5-6 months old. Some sustain breastfeeding for more than 6 months. In addition to breastfeeding and/or bottle-feeding, most babies are introduced to solid foods at an early age. Discussion in this section includes: factors contributing to the practice of bottle-feeding and to the introduction of solids during the early infancy period; factors contributing to the early introduction of solid food in breastfed infants; factors contributing to artificial feeding during the middle infancy period; and factors contributing to a prolonged duration of breastfeeding.

Factors contributing to the practice of bottle-feeding and to the introduction of solids during the early infancy period

Of the 18 mothers who acted as key informants for the study, three introduced infant formula early after birth while continuing to partially breastfeed. These mothers stopped breastfeeding within 2 months of childbirth. Another went back to work and introduced bottle-feeding when the baby was 2 months old while continuing partial breastfeeding. These infants were introduced to solid foods early. In this section, the researcher will present salient aspects of four women's experiences which illustrate the transition from breastfeeding to bottle-feeding, and factors influencing these movements. This will also allow readers to understand factors contributing to the early introduction of solid foods.

Kiew-Boon & Pim

Kiew was 42 years old. Her husband, Boon was 47 years old and their son, Satit, was 10 years old. They lived in an old, small house made of bamboo with a leaf roof. There was only one small bedroom and a small verandah outside. The house was in the same compound as Kiew's mother and her relatives. Boon worked as a field labourer and earned about 35-70 baht a day depending on the kind of work he could obtain. Before giving birth to her daughter, Kiew also worked as a field labourer. She earned about 35-40 baht a day. Kiew stopped working in the fields when she was about 7 months pregnant, but did casual jobs at home for which she earned only 10-15 baht for an entire day's work. Kiew was able to read and write but she had not finished primary schooling. Boon had finished primary schooling and had spent

several years as a Buddhist monk after finishing school. However, a subsistence life is a busy one, and they had few opportunities to read or write. Kiew's mother, aged 70, lived in the same compound but she was not healthy.

The researcher first visited Kiew when she was 5-6 months pregnant. She was very thin and looked older than her age. Her abdomen was small for a 5-6 month pregnancy and she weighed only 40 kg. Her second child, Pim, was born by caesarean section at the University Hospital. Pim weighed only 1340 gm, so she was kept in the hospital for 27 days. When Pim returned home, she weighed 2 kg. Kiew started breastfeeding but her breast milk did not flow well. She said, *"When I first put her to my breast, Pim sucked well but the milk didn't flow well. So Pim cried a lot last night."* The following day, Kiew said, *"Pim didn't suck well last night. She often rejected my nipples and cried. My breast milk hasn't flowed well and it's quite clear. So it's not sweet. I think that Pim doesn't like it's taste because she is used to the milk in a bottle. My mother said that Pim didn't bring in "good" milk with her when she was born. Perhaps it's because I am very old too. Last night I nearly bumped my head on the floor because I woke up and fed her several times. Then I felt dizzy. My husband said that he would buy a tin of milk powder for her. We are poor and the milk powder is very expensive. When my first child was newly born, my breast milk also dried up before he returned from the hospital. We fed him with canned milk [sweetened condensed milk] because we couldn't afford to buy milk powder. My husband said that he would borrow some money from his uncle. Anyway, I'll keep trying to breastfeed Pim during the day and feed her rice too. We have to bottle-feed her during the night because she often cries when she hasn't had enough. We're afraid that her crying will annoy our neighbours."* Boon bought his daughter a small tin of milk formula. One tin of milk powder which contains 450 gm of milk powder costs 69 baht. Kiew prepared the milk by mixing a small amount of milk powder with boiled water in a glass and poured the mixture into a bottle. She said, *"I have to make it last for many days. So I don't use much milk powder."* The first tin of milk powder lasted 14 days. [Used at the recommended strength, 450 gm of milk formula should last no longer than 7 days.] Kiew said that Boon boiled water in the cooking pot once in the morning, after steaming rice and once more in the evening, after cooking dinner. They had no vacuum flask and cooked on a firewood stove. There was only one bottle and one rubber nipple.



Plate 8.1: Breastfeeding



Plate 8.2: An infant is bottle-fed by propping-up a bottle and left to feed

During the initial period, Kiew cleaned the bottle once in the morning and once more in the evening by rinsing it with plain water and a week after, Pim developed thrush [oral moniliasis or oral candidiasis - a superficial fungal infection involving the oral cavity caused by *Candida albicans*] in her mouth. Kiew said, *"Pim had a mouth sore. She doesn't suck well. Perhaps, it's because I give her too much banana. It's very sweet."* The researcher suggested that the bottle should be either boiled or steamed. The day after Kiew steamed the bottle in water mixed with detergent and rinsed it with plain water afterwards. She said, *"One of my neighbours told me that detergent would make it clean."* While feeding, the bottle was always propped up and Pim was laid down in a cradle. Kiew said, *"Pim usually falls asleep when she has nearly finished and sleeps well after sucking. If I hold her and wait until she finishes, she often wakes up right after I put her in the cradle and cries."* Plate 8.2 shows that an infant is bottle-fed by being propped-up and left to feed.

Pim was also introduced to pounded sticky rice on the first day she returned home. Kiew said, *"My breast milk hasn't flowed well. I am afraid that Pim does not feel full so I feed her rice. When Satit was newly born, I also fed rice to him from the time when he was less than a month old. At that time, he was much smaller than Pim now."* Kiew also fed Pim a spoonful of mixture from a bottle which was labelled as being able to prevent abdominal distention. It mostly consisted of sodium bicarbonate. Kiew said, *"We can't afford to buy 'ya gripe water' (anti-colic mixture which the villagers actually call 'ya gripe water'). My husband bought it from the store. The owner said that it was given to many babies in our village. This medicine is as good as gripe water and it is cheap. Pim hasn't had 'jeb thong' (a stomachache) yet."* Kiew also rubbed 'mahahing' mixture [herbal medicine] over Pim's abdomen. She said, *"Mahahing' helps to release air from the baby's tummy. I also used it when Satit was young."* However, for the first few days after having rice, Pim did not move her bowels. Kiew gave her a small amount of orange juice. Kiew fed orange juice to Pim by squeezing an orange directly into Pim's mouth. A few hours later, Pim defecated normal faeces. After that Pim was fed a considerable amount of rice twice a day. Kiew said, *"Rice fills up the baby but milk doesn't. The baby often passes water after having milk, so I think that not much milk is left in her body. Pim usually sleeps well for several hours after having rice in the morning. When she sleeps, I have time to pull the water from the well to fill the storage jar and to do some washing. If it rains and the weather is cool, she often wets and I have to do some more washing in the afternoon, otherwise, it runs out during the night."* Kiew's husband, Boon, said, *"I am glad that Pim eats rice well. A young baby needs to have rice because rice will make her grow well. Pim sleeps well at night after having rice. So I can sleep well too, otherwise, I cannot work during the day. When Satit was a baby we fed him*

canned milk because Kiew had no milk. He kept crying at night and the elders told us to feed him rice. After that he slept well and grew well." Kiew's mother encouraged her to keep feeding Pim rice. She said, *"Kiew had better feed Pim as much rice as she will take. Pim is very small. Rice will make her grow well."* Kiew's sisters also agreed with their mother.

Kiew's breast milk dried up eventually when Pim was about 2 months old. So Pim was bottle-fed both day and night and was also fed with pounded sticky rice, about half a cupful twice a day. Fortunately, some of their relatives helped them to buy milk powder. Boon said, *"Pim is luckier than her brother. When Satit was newly born, we had to feed him with canned milk because we did not have enough money to buy milk powder."*

When Pim was about 3 months old, she was fed rice three times a day. Kiew often had neighbours visit her and encourage her to feed Pim rice. They said, *"Pim eats rice very well even though she is very tiny. When my son was about this age, he did not eat as well as Pim does. Kiew had better feed Pim as much rice as she will take. I rarely hear her cry at night. She must sleep well."* Kiew said, *"Pim swallows rice quickly. I have to feed her quickly too, otherwise, she always cries for it. I am glad that she eats rice well and sleeps well after having rice. So I don't need to give her milk often."*

When Pim was 6 months old she was able to roll over. Kiew complained that Pim did not sleep well during the day as she had done previously. However, Kiew often had relatives and neighbours visit, and sometimes they took Pim out for a little while. Therefore, Kiew had time to do some house work. By that time Boon had bought Pim a new brand of milk formula. He said, *"One of our neighbours told me that Pim was old enough to have this kind of milk powder. I am glad that it's cheaper than the one she was having previously."* Kiew said, *"Now Pim seldom cries for milk. She has 1-2 bottles during the day and 1-2 more bottles during the night. One tin usually lasts for many days. Perhaps, we'll wean her when she has some teeth and can have prechewed rice."* The researcher left the field when Pim was about 7 months old and weighing 5.4 kg. Her weight and other signs suggested that she was suffering from second degree malnutrition. Kiew said, *"When Pim reaches about 1 year old, I'll send her to 'rong-rien' (a day-care centre) and I'll go out to work."*

Thim-Anont & Pimpaka

Thim was 33 years old and looked healthy for her age. Anont, her husband, was 35 years old and worked as a primary school teacher. He earned a regular income of

about 5,000 baht a month. Their first daughter, Joon, was 7 years old. They lived in a new one-storey house made of brick and wood with a tile roof. There were two bedrooms. The house was far from their relatives. Anont's parents lived in another part of the village, while Thim's parents lived even further away, in another town. Thim had completed her primary school education. Before giving birth to her second daughter, Pimpaka, she worked as a wholesale trader. She usually left home around 4 am to sell 'miang' (fermented tea leaves) at the district market and returned home around 8 am every day.

After giving birth, Thim stopped going out to work and practised 'eu duan'. Her mother-in-law visited them sometimes but not regularly. Thim breastfed Pimpaka and also bottle-fed her with milk formula. Thim said, *"I want to go back to work as soon as I can, so I have to make Pimpaka get used to bottle-feeding. Then her father can bottle-feed her when I go to the market in the morning. I have to start now, otherwise she might not accept a rubber nipple. One of my cousins, who has breastfed her baby, hasn't been anywhere for months because her baby always refused to be bottle-fed. I used to go to the market every morning. I don't like staying home all day. Anyway, I'll still breastfeed her when I am at home. I breastfed my first daughter until she was 3 months old but also started bottle-feeding when she was about 2 weeks old. Many traders at the market where I go to sell 'miang' also bottle-feed their babies. They told me that it allows them to have more time to do other jobs because either their husbands or older relatives can look after and bottle-feed the babies instead of them. My husband also helps me hold and feed the baby, especially during the night when I am sleepy."* Thim's husband, Anont, bought his daughter the most expensive brand of milk formula. He said, *"One of my colleagues at school told me that she bottle-fed her baby with this brand and her baby was very chubby. Pimpaka is a good girl. She rarely cries for milk. Yesterday, I bathed her and bottle-fed her in the evening. Thim has to go out to work soon. I'll look after Pimpaka while Thim is out."* They used three bottles and Thim cleaned them by rinsing and boiling. Pimpaka was held up while being fed.

By the time Pimpaka was about 2 months old, she was mostly bottle-fed. Thim said, *"My breast milk hasn't flowed well and it's rather clear. It might not be sweet, so Pimpaka doesn't like it. Whenever I put her to my breasts, she sucks for a little while, then she turns her face from the nipple and cries. I am afraid that she hasn't had enough, so I have to bottle-feed her until she's full. I think that it's because I'm pretty old. My mother-in-law said that Pimpaka didn't bring in "good" milk when she was born. When I gave birth to Joon 7 years ago, my breast milk flowed well and it was thicker. I nursed Joon until she was about 3 months old."*

By the time she was 2 months old, Pimpaka was also fed with commercially prepared baby food, Cerelac, about half a small bowlful, twice a day. Thim said, *"Pimpaka gets up quite late in the morning because she usually goes to bed late at night. When she wakes up, I feed her 'khoa oat' (Cerelac) and then give her 2-3 ounces [60-90 ml] of milk but she rarely finishes it. After waking up in the late afternoon, I feed her 'khoa oat' again and also a bottle of milk. When Joon was about this age, I used to feed her 'khoa oat' because the elders said that rice fills up a baby and the baby will grow well. During the night, Pimpaka has only 1-2 bottles and I don't wake her up. One tin of milk powder usually lasts for many days."*

Although Thim had stopped breastfeeding when Pimpaka was 2 months old, she had not resumed her job as a trader by the time the researcher left the field. By that time, Pimpaka was 5 months old and weighed 5.2 kg. [Her birth weight was 2.6 kg.] Thim said, *"Pimpaka is smaller than the other babies of her age even though she is lively and rarely gets sick. So I won't go to work until she grows up enough. If I get up early in the morning to go to the market, I would be too tired to look after her all day."* During the day Thim mostly looked after the baby by herself. She said, *"When Joon, my first daughter, was born 7 years ago, we lived in our old house in the same compound as my relatives. They often visited us and helped me look after Joon whenever they had spare time. Now I have to look after Pimpaka by myself. We just moved into our new house here last year. Most of our relatives live in another part of the village, so it's not convenient for them to visit us frequently. Only my unmarried brother sometimes visits me during the day."*

Pui-Preecha & New

Pui was 20 years old. Preecha, her husband, was 21 years old. Both of them had only primary school education. Preecha worked as a hired labourer and had no regular income. Their first son, Nhong, was 7 months old when I first met Pui and at that time she was 4 months pregnant. They lived in the same house as Pui's parents. Preecha's parents lived in another province. Pui's parents earned their living by selling processed food at the morning and evening food market. They had to get up early every day. Before giving birth to her second son, Pui looked after Nhong at home and also helped her parents cook. A few months before giving birth, Pui, Preecha and Nhong moved from Pui's parents house to a vacant house which belonged to one of Pui's relatives. The house was some distance from Pui's parents' house.

Pui was a chubby young woman. When she was 9 months pregnant, her abdomen was so large that some people wondered whether she would have twins. However, when born, her baby weighed only 2750 gm. Pui initiated breastfeeding when she returned from the hospital. She had also started bottle-feeding New, her second son when he was about 1 week old. Pui said, *"I want to go out to work as soon as possible. Preecha cannot earn enough money for the family and I have to help him. I don't like staying home all day either. So I have to make New get used to the bottle before I go out to work, otherwise, he might refuse a rubber nipple. When my first son, Nhong, was newly born, I also started bottle-feeding him when he was about this age because I had to help my sister with her work. I stopped breastfeeding Nhong when he was about 3 months old."* During the post-natal period, Pui stayed mainly in the bedroom like most post-natal women. New was also mostly kept in the same bedroom as his mother. Pui's mother sometimes visited them and gave advice but she did not stay with or actively help Pui because she had to earn her own living. From the researcher's observations, Pui seldom breastfed her baby. Mostly, New was bottle-fed by being propped-up and left to feed. Pui said, *"New sleeps well. Sometimes he can't finish a whole bottle. I usually prop up the bottle for him, so he can have some more when he wakes up."* New was not as active as the other newborns. He seldom cried and didn't suck well.

As most of the money was used up for the hospital fee when Pui went to give birth and Preecha was unemployed for many days, Pui's mother bought the milk powder for New from the store on credit. Fortunately, the bottles left from New's brother, were still usable. Pui cleaned the bottles by rinsing and boiling them.

When New was about 2 weeks old, he was mostly bottle-fed and also introduced to pounded sticky rice mixed with mashed banana twice a day. Pui said, *"My breast milk hasn't flowed well. New often stops sucking while being fed. It's quite clear as well. My mother said that it was not sweet and as tasty as the milk powder. So the baby doesn't like it. My mother told me to keep drinking 'nam pu lei' (water infused with rhizome of zingiber cassumunar) but I don't like its taste, so I seldom have it. She told me to feed him rice too. She said that rice would fill up the baby and make the baby grow well."* When the first two tins of milk powder were used up, Pui bought New sweetened condensed milk. She said, *"Preecha hasn't had any jobs for many days. The milk powder is very expensive. We owed the shopkeeper 140 baht for the first two tins. I'll use canned milk instead until we have enough money to buy milk powder. Canned milk [sweetened condensed milk] is much cheaper than milk powder."* New vomited after being fed with canned milk. He also coughed a lot and looked ill. Pui and Preecha took him to the district hospital and he was diagnosed as

having malnutrition and aspiration pneumonia. By that time, New was 1 month and 10 days old and weighed only 2400 gm, a loss of 350 gm from his birth weight of 2750 gm. Pui's husband said, *"Pui always obeyed her mother about feeding rice. She fed New too much rice. When Nhong was about 2 weeks old, Pui also fed him rice because her mother told her to do that. Luckily, Nhong, also sucked well and Pui's sister bought the milk powder. Here I have no regular job. I know that Pui used canned milk instead of milk powder because she wanted to save money. If Pui's breast milk flowed well, we would not have to spend money on buying milk powder."*

After being treated in the hospital for 1 week, New sucked better than he had done previously. The doctor told Pui not to feed him rice and sweetened condensed milk. Therefore, a small tin of milk powder which lasted only 4-5 days, was bought from the store on credit because Preecha was unemployed. Pui still propped up the bottle for New. She said, *"It usually takes time for New to finish each bottle. I have to do housework too. So I have to prop-up a bottle for him."* The researcher often observed that Pui and her friends sat under the house and chatted. One of Pui's neighbours said, *"I wonder why Pui is not as busy as the other women who have young babies. I often see her chatting with her friends in the space under the house without her baby. When my daughter was young, I had no time to chat like her."*

About 2 weeks later, New was introduced to rice again, but he vomited afterwards. Pui's mother said, *"I told Pui to feed New rice again. Rice can fill him up but milk is not filling because it has only water. So I think that not much milk is left in his body. Our neighbours said that New was still small because he was not fed rice. If he eats rice well, we'll save money because the milk powder is very expensive."* The following day, Pui attempted to feed New rice again but he accepted only a small amount of it. A few days later, New had rapid breathing, yellow skin, and pale stools. The researcher suggested that the baby should be taken to see the pediatrician at the University Hospital.

At the University Hospital, New was diagnosed as having congenital heart disease [Ventricular septal defect, commonly referred to as "hole in the heart"] and also underwent an operation to correct a bile duct obstruction. New was fed on demand at least six bottles per day, each bottle containing 5 ounces [150 ml] of milk formula. Pui was allowed to stay with New in the infant unit and was advised not to prop-up the bottle when feeding. Within a few weeks, New had gained weight and made a good recovery from surgery, even though his heart defect was not correct at this time. New returned from the hospital a few days before the researcher left the field. By that time, he was 3 months and 2 weeks old and weighed 3900 gm. Pui said, *"New sucks*

very well. He usually finishes a small tin of milk in 3-4 days. I think that Preecha and I will be in debt until he grows up enough to be weaned. Anyway, the nurse told me that I could feed him some rice."

Sompong-Sunan & Som

Sompong was 21 years old and her husband Sunan was 23 years old. They worked as fruit sellers at the big market in the subdistrict and made a good profit. They lived in their own house near Sunan's mother's house but not in the same compound. Sunan's mother was a widow and still went out to work to support a large family. Sompong's mother lived in another town. Although they had finished only primary school education, they often had opportunities to read newspapers and magazines when they went out, and also had a chance to meet many people in the course of their work, which probably enabled them to be better informed about the outside world than other villagers.

After giving birth, Sompong stopped working and breastfed Som for 2 months. Then she went back to work and Som was looked after by her father. Sompong said, *"Actually, I prefer staying home with Som and breastfeeding her but Sunan said that he was not good at selling. The last 2 months when I stayed home, he hasn't earned much money. So he has offered to stay home and look after Som. He is good at looking after the baby because he used to help his mother look after his brothers and sisters. He goes to buy fruit from the wholesale market in town early in the morning. I breastfeed Som once when she wakes up in the morning. Then I go out to sell fruit in the late morning until dark. When I return home in the evening, I nurse her again and a few more times during the night. I think that she always feels full after having my breast milk because she usually falls asleep while suckling and sleeps for several hours."*

Som was bottle-fed while Sompong was out. Her father, Sunan said, *"I bought Som a good brand of milk powder from the big store in town. The shopkeeper said that this brand is widely used. It's quite expensive. I prepare 3-4 ounces [120-150 ml] of milk for each feed and Som has 2-3 feeds a day but sometimes she doesn't finish the bottle. She isn't sleeping as well as she used to. Sometimes, I think that she doesn't feel full. Anyway, we have to make her get used to milk powder, otherwise Sompong has to stay home and breastfeed her. I think that it should be alright. Some of the traders at the market where we sell fruit said that their babies were also bottle-fed during the day and they had grown up well."* Sunan bought three bottles for his daughter and cleaned

the bottles with detergent before boiling them. Som was held up while feeding until she was able to hold the bottle by herself.

As Sunan went to buy fruit from the market in the town daily, he often bought a new brand of milk formula for his daughter according to the advice of either the storekeepers or some of their buyers. He said, *"Som doesn't eat much rice and seldom finishes a bottle. I would like Som to have the best milk. I don't mind about the price. There are many brands of milk formula in the big stores in town."* Finally, Sunan bought Som the most expensive brand of milk formula and the girl accepted it well. Sunan said, *"We should have changed the brand a long time ago. This brand is really good even though it is very expensive."*

Apart from breastfeeding and bottle-feeding, Som was also introduced to Cerelac when she was about 1 month old. Sompong said, *"My mother-in-law and sister-in-law told me to feed Som rice. They said that rice would make the baby grow well. I mix two small spoons of 'khoa oat' (Cerelac) with a small amount of boiled water. After feeding her 'khoa oat', I give her one small spoon of 'ya gripe water' (anti-colic mixture which the villagers actually call 'ya gripe water') to prevent 'jeb thong' (a stomachache). It's easy to prepare 'khoa oat' even if it's quite expensive. Many of our neighbour's babies also have it."* Som did not move her bowels for 2 days after having Cerelac and was given an enema. [A commercially prepared enema set which costs 8 baht. It is available in the stores.] Sompong also said that Som did not accept much 'khoa oat'. Therefore, Sompong and Sunan decided to give up feeding Som Cerelac.

When Som was about 2 months and 2 weeks old, she was introduced to pounded sticky rice. Sunan said, *"I started feeding Som rice again because I want her to grow well. During the day, Som doesn't have much milk. My cousin's son, who is a few days older than Som, has been fed rice since he was 1 month old and now he's much bigger than Som. Som likes this kind of rice better than 'khoa oat'. Perhaps, the banana makes it sweet."* It took about half an hour for Som to finish half a cupful of rice. Som often cried and spat it out while being fed but her parents tried to attract her attention by ringing a bell and kept on feeding her rice.

When Som was 4 months old, she was introduced to boiled egg yolk. Sompong said, *"In the leaflet I got from the hospital when I went to give birth, it says that egg can be given to a baby about this age."* However, Som did not accept egg well and it was given up. Sompong and Sunan often complained that Som had not had much rice either. Sunan bought his daughter a bottle of vitamin preparation. He said, *"I bought*

it from the drug store in town. The storekeeper said that it was widely used to make a baby eat well." When Som was about 6 months old, she weighed 6.5 kg. [Her birth weight was 3.0 kg.]

Som was fed with prechewed sticky rice instead of pounded rice when she was about 7 months old. Sompong and Sunan said, *"The elders and our neighbours said that Som was old enough to have prechewed rice. She has two teeth already. Som likes sticky rice with grilled pork or fried pork liver."* By that time Sunan and Sompong went to sell fruit together. Som was looked after by a childminder. A few days later, Som had loose stools and appeared weak. Sunan and Sompong took Som to see the doctor at a private clinic. When Som recovered, Sunan decided to give up the childminder and he looked after Som by himself. Sompong still breastfed Som during the night and whenever she stayed home during the day.

When Som was about 8 months old, Sompong asked her mother, who lived in another town, to stay with her. Sompong's mother minded Som during the day while Sompong and Sunan went out to sell fruit together. Som was fed with either prechewed rice or boiled rice three times a day and had 1-2 bottles of milk during the day. Sompong's mother said, *"Sompong and Sunan often said that Som was not as big as the other children of her age. I keep feeding her rice and Som eats rice quite well but she is not fat. Perhaps, she is like her father because Sunan is small."* When Som was 10 months old, she weighed 7.5 kg. Sompong said, *"I am thinking of weaning her from breast milk but my mother and mother-in-law said that I'd better wait until she can chew rice by herself."*

Summary

Women who introduce infant formula early state that the main reason is that they want to ensure that the babies adapt to bottle-feeding before they resume work. The belief about "bad" breast milk may lead the mothers to underestimate the value of their breast milk. Mothers who lack support and assistance from kinswomen are less likely to succeed in breastfeeding and are likely to adopt artificial feeding practices earlier. Some of these mothers have previous experiences with bottle-feeding. While this is not expected traditionally, some husbands actively help with child care by preparing formula, feeding, and caring for the babies while their wives work. After introducing bottle-feeding for a period of time, the majority of mothers tend to stop breastfeeding altogether.

With regard to the milk products, poor families tend to bottle-feed their babies with the cheapest brand of milk formula, while some even use other kinds of milk products eg. sweetened condensed milk. Those better off financially are likely to choose the best or the most expensive brands. They are influenced by their friends or neighbours, and storekeepers about various brands of milk product. A particular brand will be tried on the baby and will be used continually if the baby likes it and is healthy or is simply not showing any negative signs. If the child refuses it, the parents may go on to try another brand.

Since their budget is limited, poor mothers are likely to overdilute powdered milk to make it go further. They are unlikely to understand the need for sterilising bottles and seldom have the necessary facilities, fuel or time to clean them well. In addition some mothers are likely to use an improper feeding technique.

With respect to the solid food which is usually introduced early, various factors contribute to this practice. The major determining factors are the beliefs relating to rice which include the idea of rice being retained in the body while milk is not. Thus, it is believed that rice will make a baby grow well. Rice makes a baby sleep well, thus allowing the mother to do other household duties. The key influential persons are elderly relatives, particularly grandmothers. As well, the experience gained from raising a previous child plays an important role in this practice. The encouragement of husbands and neighbours is also important. In addition, poor mothers who bottle-feed view solid food in terms of economic benefit, because solid food fills up the babies, thus they do not take much milk. Despite the advice of health professionals that early introduction of solid food is not necessary and may even be harmful to the infant, the practice is widespread.

In terms of the types of solid foods, mothers choose either pounded sticky rice or the commercial baby food, Cerelac, for various reasons including the child's acceptance, ease of preparation, economic factors and the advice of other mothers. Despite a family's low income, mothers may shift from a traditional solid food to commercial baby food if the babies do not accept the former kind well.

Factors contributing to the early introduction of solid food in breastfed infants

Solid food was introduced to most infants early regardless of whether they were breastfed or bottle-fed. In the previous section discussion was centred around the factors which influence bottle-feeding mothers to feed solid foods early. In this

section, accounts of specific women's experiences allow readers to understand the circumstances under which breastfeeding mothers engage in early introduction of solid foods to their infants.

Sri-Chatri & Ben

Ben was the first son of Sri and her husband Chatri. He was breastfed and was also started on pounded sticky rice mixed with mashed banana when he was 1 month old. A few days before starting Sri asked the researcher, *"Should I feed Ben some rice when he is about 1 month old?"* The researcher asked her, *"What do you think?"* Sri said, *"In the leaflet I got from the hospital, it says that solid foods should be given when the baby is 2-3 months old but my mother and aunt-in-law told me to feed him rice right now because Ben cries very often during the night. I always put him to the breast whenever he cries but sometimes he still cries even if he is full. So the elders said that he cried for rice."* Therefore, Ben was given about half a cupful of rice twice a day. Sri said, *"Ben sleeps well after having rice. My husband told me to keep feeding him rice. He said that when Ben cried at night he could not sleep well and often felt sleepy while working during the day."* Sri's aunt-in-law, Dang, said, *"Ben eats rice well and sleeps well too. I told Sri to feed him as much as he can eat. Otherwise, if he cries very often, Sri has no time to do any other jobs."* As Sri lived with her uncle and aunt-in-law in a house which doubled as a small shop selling soup noodles, she also helped her aunt-in-law do the dishes and served food in the shop while Ben was sleeping. Sri said, *"I am glad that Ben eats rice well, as I don't need to nurse him very often. I have to help my uncle and aunt-in-law work as much as I can because they allow us to live with them."* When Ben was 6 weeks old, Sri took him to be vaccinated at the health centre and Ben weighed 4.5 kg. Sri said, *"I was asked how old Ben was and the ones who know his age always said that he was a big baby."* Sri's aunt-in-law said, *"Ben is chubby because he eats a lot of rice."*

Ben did well on pounded sticky rice until he was about 5 months old. Then, Sri often complained that Ben would not take it. Sri said, *"Ben often spits it out. He might be bored with it. Perhaps, I will give him 'khoa oat' (Cerelac) instead. Some of my neighbours told me that their babies also rejected pounded rice like Ben and they were given 'khoa oat' until they were able to have prechewed rice. Even though 'khoa oat' is quite expensive, my husband said that he would buy it for Ben because he wanted him to have rice. Then, when Ben has some teeth, he can have prechewed rice."* A few days later Ben was fed with Cerelac and Sri said that Ben accepted it well.

Tamol-Saokum & Phai

Tamol and her husband Saokum had one daughter, Phai. Tamol started feeding Phai pounded sticky rice when the child was about 6 weeks old. A few days before starting, Tamol said, *"Phai hasn't slept well for a few nights. She often wakes up and cries even though I put her to my breast whenever she cries. I haven't slept well either. My mother and sister said that she cried for rice and told me to give her rice. Actually, in the leaflet I got from the hospital, it says that rice should be given when a baby is 2-3 months old. But most babies in the village are usually fed rice much sooner and they also grow well. So I might feed Phai rice."* As occurred in the similar instance described on page 172, with a girl named Som, Phai did not move her bowels afterwards and was given an enema. A week later, Phai was given Cerelac instead. Tamol said, *"One of my neighbours told me to give 'khoa oat' (Cerelac) to Phai. She said that her baby moved her bowels well after having pounded rice. My husband bought it for her. It was quite expensive but my husband said that he wanted Phai to have rice because rice would make her grow well."* Tamol also gave Phai one small spoon of gripe water after feeding her rice. Phai did well with Cerelac. Tamol said, *"My husband and I are happy because Phai eats rice well and also sleeps well. The elders and our neighbours said that she would grow well too. Anyway, I feed her only 1-2 spoons of rice twice a day because I don't want her to be too full."* By the time Phai was 5 months old, she had finished five 450 gm tins of Cerelac, a rice-based baby food. [For further detail about the composition of Cerelac see Chapter Six, p 108] Tamol also introduced boiled egg yolk to Phai. She said, *"In the leaflet I got from the hospital, it says that egg can be given when a baby is about 4-5 months old."* However Phai did not accept egg yolk well, so Tamol seldom fed it to her.

Sang-Mhao & Porn

Sang started feeding rice to her second daughter, Porn, from the time that Porn was only 5 days old. Porn was fed with pounded sticky rice mixed with mashed banana, about half a cupful twice a day, which was followed by a small spoonful of gripe water. Sang said, *"Porn slept well only for the first few nights after birth. Then she cried a lot during the night. So I fed her rice because the elders said that she cried for rice. I gave rice to Thoy, my first daughter, when she was about 1 week old too. After having rice in the morning, Porn usually sleeps well until about noon. Then I have time to do some washing while she sleeps."* Porn often fell asleep while being fed rice but Sang kept waking her up and feeding her. Sometimes Porn cried and spat the food out but Sang never gave up. It usually took more than half an hour for each feed. Sang's mother also encouraged her. She said to Sang, *"Keep feeding Porn as much rice as she can take. Rice fills up a baby and will make the baby sleep well and grow well."*

When Porn was about 1 month old, she had watery stools. Sang took her to the district hospital and was given an antibiotic medicine [colistin] to treat it. A day after,

Porn still had watery stools. Sang bought Porn an antidiarrhoeal drug from the store in the village. As occurred with Som and Phai [see p 172 and p 176], Porn recovered from diarrhoea but she did not move her bowels for 2 days. Sang's husband told her to give Porn an enema [a commercially prepared enema set which is available in the stores]. During that time, Sang still fed rice to Porn as usual. She said, *"The doctor told me not to give Porn rice. He said that Porn was too young to have rice. But Porn is used to having rice. She usually cries for rice and always sleeps well after having rice. So I have to feed her rice every day, otherwise my husband cannot sleep well because Porn keeps crying. He has to get up early and work in the fields all day because it is harvest time. I can't help him work in the fields because I have to look after Porn and nurse her."*

By the time she was 3 months old, Porn was fed rice three times a day. Sang said, *"Porn isn't sleeping as well as she did before, so I give her one more meal of rice at noon. Otherwise, she always stays awake and I have no time to do anything. I tend three pigs at home and, sometimes, I have to do work at home too."* Sang sometimes did casual jobs such as threshing mung beans at home and had her mother look after Porn. Whenever Porn cried, Sang's mother put the girl to her breasts. Porn sucked strongly but, unfortunately, nothing came out.

A week later, when she started to roll over, Porn had loose stools again. Sang said that Porn defecated 'yoa' (greenish, loose or watery stools). [For more detail see Chapter Six, p 110] Porn continued to have loose stools for another 2 days and did not eat much rice. Sang gave Porn an antidiarrhoeal drug. Porn recovered from having loose stools but developed constipation for another 2 days. Sang said, *"A young child usually has loose stools on and off. I am very careful with food. I have never had chilli or sour food since Porn was born. Anyway this medicine works well for a baby who has loose or watery stools. When Thoy was about this age, she often had loose stools too and I also gave her this medicine."*

Summary

Even though mothers may be at home or able to breastfeed on demand and tend to breastfeed for a longer period of time, the babies are fed solid foods early owing to various factors. These include the influence of elderly kinswomen; the belief that infants cry at night because they want to have rice; the belief that rice is essential for child growth because it can be retained in the body. This practice is confirmed when the baby sleeps well after having rice, thus allowing mothers to do other jobs during the day and fathers to sleep well at night. The neighbours encourage this practice because they are annoyed by the infant's crying. Some babies accept solid foods well but some have gastrointestinal problems. Mothers usually view loose stools or watery stools as a natural process rather than an illness which needs to be treated. Often treatments are sought without sufficient knowledge, sometimes resulting in subsequent problems such as constipation.



Plate 8.3: Feeding solid foods during early infancy
(pounded rice and mashed banana)



Plate 8.4: Feeding pre-masticated foods
(sticky rice and indigenous food such as grilled pork)

Factors contributing to artificial feeding during the middle infancy period

In the earlier section of this chapter, factors contributing to supplemental bottle-feeding during the early infancy period have been presented. In addition to the four mothers who introduced bottle-feeding early, two other mothers introduced artificial feeding while continuing to partially breastfeed when the babies were 5-6 months old. Excerpts from the stories of two women will be presented to allow readers to understand more clearly factors influencing this movement.

Saithong-Seri & Nan

Saithong was 25 years old. Her husband, Seri, was 27 years old. They had finished primary schooling. Their son, Nai, was 7 years old and their daughter, Nan, was 3 months old when I first visited them. They lived in their own house which was situated near the rice fields. Seri worked in his parents' rice fields and his own vegetable garden. Before giving birth to Nan, Saithong also helped her husband work in the fields. After delivery, she stayed home and looked after Nan. During the day she usually took Nan to Seri's parents' house where her mother-in-law and relatives helped to look after Nan.

Nan was breastfed and was also fed with Cerelac twice a day. By the time Nan was 5 months old, she had consumed 11 tins of Cerelac. At this time Saithong complained that Nan sucked less and ate less rice than she had done previously. Saithong said, *"Nan hasn't sucked well and hasn't eaten much rice for several days. She often rejects my breast milk. My mother-in-law and some of my neighbours said that my milk has become clearer than it was and may not be as sweet. The 'mho' (health worker) at the health centre told me to drink some milk and eat more meat and eggs. I am afraid to drink milk because I used to have watery stools afterwards. I usually cook curry with meat and vegetables but I don't like meat much."* A few days later Nan was introduced to prechewed rice instead of Cerelac. Saithong said, *"Nan likes sticky rice with either fried pork or fried pork liver. I am thinking of bottle-feeding her some of the time because I want to help my husband work in the fields. My mother-in-law and aunt-in-law have offered to look after her when I go out."* A week later, Saithong began to leave Nan with her elderly relatives and she was bottle-fed while her mother was out. Saithong's mother-in-law said, *"Nan likes milk in a bottle. She usually finishes it. Perhaps, Saithong's breast milk is not sweet, so Nan often rejects it. Nan eats rice well too. I sometimes buy her rice pudding from the food market and she likes it."*

About a month later, Nan had a high fever and accepted only breast milk. Saithong and her husband took Nan to a private clinic and got an antibiotic [ampicillin] to treat the infection. Nan was diagnosed as having a sore throat. Saithong stopped going out to work during that time and breastfed Nan both day and night. Saithong said, *"Nan sucks well especially during the night."* When Nan recovered from the sickness, Saithong occasionally went out to work again.

By the time Nan was 10 months old she weighed 8 kg. Saithong said, *"When the baby reaches this age, bottle-feeding allows the mother to have more time to do other jobs because anyone can prepare a bottle and feed the child. My son, Nai, was also sometimes bottle-fed while I had to go out when he was about this age. My parents-in-law offered to look after him. They love him very much because Nai is their first grandson. I stopped breastfeeding him when he was about 10 months old and stopped bottle-feeding him when he was about 1 year and 2 months old. The elders also said that a child could be weaned when he was able to chew sticky rice by himself. So I might wean Nan soon as well."*

Pen-Poon & Kla

Pen was 35 years old and her husband, Poon was 43 years old. They had 6 children, ages of the first five were 18, 17, 15, 11, and 6 years. Kla, their last son was 4 months old when I first visited them. Their first daughter had gone to work in Bangkok and their fourth son was staying with the monks at the temple. The others stayed with their parents in a small house which had only one bedroom. The house was in the same compound as Pen's parents' house. Pen and Poon were literate but they had had little chance to read and write after finishing school. They had no rice fields or a vegetable garden of their own. Poon worked as a field labourer and so did Pen before giving birth to Kla. Bai and Prae, their second son and third daughter also helped their parents earn money by working as hired labourers after they had finished primary school. Most of the family income was spent on buying rice and other food.

Kla, a 4-month-old boy, looked healthy and weighed 7 kg. Pen said that she did not plan to have Kla but she forgot to have a contraceptive injection. Pen had breastfed all her children. She said, *"I usually breastfeed every child until they are about 1 year old and are able to chew rice by themselves."* Kla had been breastfed and Pen started feeding him pounded sticky rice when he was 2 weeks old. Kla did well with pounded sticky rice until he was about 3 months old, but then he often rejected it, so Poon bought his son Cerelac. Pen said, *"My husband said that he wanted Kla to have rice. Even though 'khoa oat' (Cerelac) is quite expensive, we have to give him rice, otherwise he would not grow well."* By the time Kla was 6 months old he had been fed six tins of it.

When Kla was about 5 months old, Pen introduced him to bottle-feeding but Kla would not accept a rubber nipple. Pen said, *"He didn't suck and kept crying so I gave up the bottle and continued breastfeeding him."* A month later, Pen started to leave Kla with Prae during the day while she went out to work. Pen said, *"I give him prechewed rice instead of 'khoa oat'. He likes sticky rice with pork or eggs. I also buy 'ovaltine' (a drink mixed with sweetened condensed milk which the villagers actually call 'ovaltine') for him and Prae feeds him by using a cup because he doesn't accept a bottle. Prae told me that he likes it. Perhaps because it's sweet. I have to go out to work sometimes because Prae is not keen on some types of work such as picking peanuts."* Pen nursed him once before she went out in the morning and immediately after she returned home in the evening and during the night.

Summary

Two mothers introduced artificial feeding when the babies were 5- 6 months old. Factors influencing this practice appeared to be: the belief about "bad" breast milk, the mother's need to resume working, the child's acceptance of solid foods, the mother's experience of bottle-feeding a previous child, and the availability of kinswomen to mind the child when the mother was out.

Factors contributing to a prolonged duration of breastfeeding

From the previous sections, it is evident that early introduction of artificial feeding influences the timing of full weaning from breast milk. With early introduction of bottle-feeding and solids, the duration of breastfeeding is short. In this section, personal accounts from the experiences of seven women are presented to show why in other instances breastfeeding is prolonged.

Pen-Poon & Kla

Kla had not had a serious illness since he was born but between the ages of 7-9 months, he had severe diarrhoea twice. Pen stopped going out to work and stayed home with Kla for several weeks. She said, *"Kla hasn't had rice for a week, he accepts only my breast milk. At first I thought that I would wean him when he reached about 10 months and send him to 'rong-rien' (a day-care centre) because I have to go out to work and Prae wants to go to work as well. But now he is not well, so I have to look after him until he is strong enough and eats rice well again."* During that time, Pen stayed home and looked after Kla. She also tended pigs, and raised chickens and ducks at home.

When Kla was nearly 11 months old Pen attempted to wean him again. Unfortunately, Kla had a high fever and sore throat. He accepted nothing but breast milk. Pen said, *"My husband told me not to wean him yet because he didn't want Kla to be like Geng, our fifth son. When Geng was about 10 months old, I weaned him and we took him with us to work in the forest. Later, Geng had bloody stools and didn't have anything except water for 2 days. We took him to the district hospital and the doctor told us that he had a malaria fever. The doctor told me to restart breastfeeding. Luckily, my breast milk still flowed. When it first started to flow again, it was clear. But not long after, it became white and 'khoon' (opaque). Geng was very thin at that time and would not take much rice for several months. The elders said that Geng was 'yhod nom' (become thin after being weaned from breast milk). I continued breastfeeding Geng until he was nearly 2 years old."*

When the researcher left the field, Pen still breastfed Kla during the night and whenever she stayed home during the day. By that time, Kla was 13 months old and weighed 10 kg. Pen said, *"Kla eats rice well now. So, sometimes I leave him with Prae during the day. Kla also sleeps well and rarely wakes up during the night. He doesn't wake me up either. He just crawls towards me and sucks. When he has enough, he goes back to sleep again. I am thinking of sending him to 'rong-rien' but I won't wean him until he stops sucking by himself. I love him very much. He is our last son. I want him to grow up well."*

Naree-Kamchan & Liew

Naree was 33 years old and her husband, Kamchan, was 34 years old. Both of them had finished primary education. They had three children. Lek, their son was 7 years old, Lin, a daughter, was 3 years and 6 months old, and Liew, the second daughter, was 3 months old. They lived in a small house in the same compound as Kamchan's mother. Kamchan worked in his mother's rice fields and on his own vegetable garden. Before giving birth to Liew, Naree also helped her husband work in the fields. Naree said that she and her husband had saved some money to build a new house on their own land because she did not get along well with her mother-in-law. Naree's mother had died when she was young and her father lived in another part of the village.

Naree looked after her children by herself. She breastfed every child. She said, *"Milk powder is very expensive. We cannot afford to buy milk powder. I breastfed Lek until he was about 2 years old. Actually, I tried to wean him many times but he still sucked. Now he is 7 years old and he rarely gets sick. My second daughter, Lin,*

stopped sucking by herself when she was about 1 year and 4 months old. She seldom gets sick either." Liew, Naree's youngest daughter, was a chubby girl. She weighed 7 kg. Naree said, *"Liew sucks very well and she has never been sick since she was born. 'She is 'liang ngai' (easy to bring up). The elders and my neighbours said that my breast milk is good because it's white and 'khoon' (opaque). It will make the baby grow well."*

Like most babies, Liew was introduced to rice early. She had been fed with pounded sticky rice mixed with mashed banana since she was about a month old. Naree said, *"Liew eats rice well. She usually has about half a small bowlful twice a day. When she wakes up in the morning, I nurse her once and feed her rice in the late morning. After having rice, Liew always sleeps well in the cradle until about noon, then I have time to get water from the well to fill the storage jars and do some washing. When she wakes up, I nurse her and play with her until the late afternoon and then feed her rice again. After feeding rice, I bath her and she sleeps again until the evening. When my husband comes back from the fields, he looks after Liew and I go to buy foods from the evening food market and cook dinner."*

When Liew was nearly 5 months old, she stopped taking as much rice as she had done previously. Naree said, *"Liew used to finish about half a bowl each time, but now she often spits it out and rarely finishes it. Anyway, she still sucks well, so I nurse her as often as she needs. I don't want her to be hungry."* A few weeks later, Naree introduced Liew to prechewed sticky rice instead of pounded sticky rice. She said, *"Liew is old enough to have prechewed rice. I used to feed Lek and Lin with prechewed rice when they were about this age too."* However, Naree still complained that Liew did not accept rice well. She said, *"Liew often spits it out, she doesn't like either rice or pork. The other day I fed her only grilled pork not rice but she still spat it out. I am thinking of boiled rice with minced pork. In the leaflet I got from the hospital, it says that it can be given to the baby about this age. It's not very convenient because we usually have sticky rice and we don't have a rice cooker either. Anyway, I'll try."* A few days later, Naree fed Liew boiled rice but Liew had only a small amount of it. After a few days, Naree bought 'kanom kati' (native dessert cooked from sticky rice, sugar and coconut milk) from the food market and fed Liew a small amount of it. Naree said, *"I am afraid to give her much dessert. The elders said that dessert would cause 'pen kang' (sore mouth)."*

Naree and her husband Kamchan often complained that Liew did not have much rice. Naree said, *"I breastfeed Liew as often as she wants because I don't want her to be 'yhod' (become thin) because she doesn't eat much rice. The other day, my husband*

fed her 'pla' (fish) and she liked it. So he said that he would catch fish from the swamp for Liew because he wanted Liew to eat more rice. I told him that my aunt used to tell me not to give the baby much meat or fish because the baby would be 'pen doi' (become thin and have a big tummy because of intestinal parasites). But my husband said that times have changed and the elders might be out of date. Yesterday I took Liew to have a vaccine at the health centre and the 'mho' (health worker) said that meat, eggs and fish could be given to the baby about this age." During that period Liew mostly had breast milk.

When Liew was about 8 months old, Naree complained that she was sometimes bored with staying home all day. She said, *"I've not been out of the village since Liew was born. The other day I said to my husband that I can go out to work instead of him if he stays home and looks after Lin and Liew instead of me. But he said that Liew was too young to be weaned. He also said that he had no breast milk like me and he didn't want Liew to be 'yhod nom' (become thin after being weaned from breast milk) either. He often says that we are lucky that my breast milk is good, otherwise we would have to buy milk powder for our babies. He keeps telling me to breastfeed Liew until she eats rice well."* Despite complaining, Naree always gave Liew a cuddle and then nursed the girl whenever Liew cried. She said, *"Liew always stops crying when I nurse her. I can't stand her crying. I get bored sometimes but I won't wean her until she eats rice well because I love her very much. I want her to grow up well."*

When Liew was about 10 months old, she was still mostly breastfed. Naree said, *"Liew still doesn't eat much rice. She has only my breast milk. She sometimes bites my nipples. Her brother and sister had never done that. If she eats more rice, I might wean her and send her to 'rong-rien' (a day-care centre). Then I can go out to work."* However, Naree stayed home and was still breastfeeding Liew when the researcher left the field. By that time, Liew was 12 months old. The girl was healthy and weighed 11 kg. Naree said, *"I am often asked how old Liew is. Whoever sees her says that she is chubby and lovely. My husband is very glad to hear that."*

Buapud & Sung

Buapud was disabled and a single mother. [For detailed information see Chapter Seven, p 145] She lived with her father and brothers and her life was totally dependent on them because she was not able to go out to work. After giving birth to her son, Sung, Buapud mostly spent time looking after her baby and doing some light housework. The baby was nursed as frequently as he needed. Buapud said, *"My father and brothers sleep outside my bedroom and they always ask why Sung cries*

during the night. So I always nurse him whenever he cries. My breast milk has flowed well and my baby sucks well too. Sometimes it stains my blouse a lot. It's white and 'khood' (opaque). The elders said that Sung has brought in "good" milk. The white milk is sweet and it will make the baby grow well. Sung has no father and I can't go out to work either. So I am glad that my breast milk is good for him. I can't afford to buy milk powder. My neighbours say that when Sung grows up, he will be strong and look after me. Even though he has no father, I will care for him as well as I can. He is the only son I have. I love him very much. I will nurse him as long as I can." Buapud was still breastfeeding her son when the researcher left the field. By that time Sung was 6 months old and weighed 7 kg.

Tamol-Saokum & Phai

Tamol had breastfed her baby since they returned from the hospital. Six weeks after delivery Tamol went to the post-natal clinic at the hospital in town which took her several hours. Tamol prepared a bottle of milk formula for Phai and left her to stay with Tamol's sister. Tamol told the researcher, *"While I was waiting for a doctor at the hospital, my breast milk flowed a lot and stained my blouse. I had to pump it out in the toilet. When my husband and I returned from the hospital in the afternoon, Phai sucked as if she hadn't had anything for many hours. My sister told me that Phai wouldn't take a rubber nipple. I won't go out without Phai any more because I am afraid that she will be hungry."*

When Phai was about 3 months old Tamol, Saokum and Phai moved to stay with Saokum's parents in another village. The researcher visited them again when Phai was about 5 months old. Tamol said, *"Some of my neighbours' children who are about Phai's age are bottle-fed during the day and their mothers go out to work. I want to help my husband work in the fields but my husband wants me to stay with Phai and breastfeed her until she can chew rice by herself. He tells me not to be worried about working and keeps telling me to breastfeed Phai. Phai is a good girl. She has never cried when she's not hungry or wet and seldom gets sick either. My neighbours say that Phai is 'liang ngai' (easy to bring up) and my breast milk is "good" for her."* Tamol was still breastfeeding her daughter when the researcher left the field. By that time Phai was 7 months old and weighed 6.9 kg. Tamol said, *"I'll nurse Phai until she is about 1 year old. I love her very much. I want her to grow up well. Phai's father also loves her very much and always helps me to look after Phai when he comes back from the fields and I can do some housework and cook. Some of our neighbours visit us whenever they're free from work and take Phai out too. They say that Phai is lovely. I am glad to hear that."*

Ulai-Dang & Wan

Ulai was 26 years old. She was thin and looked slightly malnourished. Dang, her husband, was 28 years old. They had three daughters. Their third daughter, Wan, was 1 year and 3 months old and weighed only 7 kg. The girl was considered as having third degree malnutrition and was often sick. Wan was still breastfed on demand and also had sticky rice with native foods for children 3-4 times a day. Ulai said, *"When I breastfed Whan, my second daughter, my breast milk was white and 'khoon' (opaque). But now it's a little bit clear. The elders said that Wan didn't bring in "good" milk with her when she was born. So Wan is 'liang yakk' (difficult to bring up) because she often gets sick and hasn't grown up well. Anyway, I am not happy to wean Wan right now because the 'mho' at the health centre told me that Wan was underweight. Last month I was sponsored 3 baht a day by the health centre to buy food for her. The 'mho' told me to buy meat or eggs or milk for her. Wan likes eggs but not meat and milk [pasteurised milk in a carton or a plastic bag]. Wan seldom sucks during the day, and often stops sucking when someone talks to her or teases her. Since she has grown up, she seldom wakes me up during the night. She just sucks and then goes back to sleep again. So I won't wean her until she stops sucking by herself. Actually, she eats rice quite well. I wonder why she's still small."* When Wan was 18 months old, the girl was sent to the day-care centre and Ulai went out to work in the fields. Ulai still breastfed Wan whenever she stayed home. She was never embarrassed to expose her breasts in public while feeding her child and continued breastfeeding, although less frequently, until the researcher left the field. By that time Wan was 2 years and 2 months old. However, the girl weighed only 8.8 kg which was indicative of second degree malnutrition.

Umpai-Chai & Joy

Umpai was 24 years old and Chai, her husband, was 26 years old. They had a daughter, Joy. Umpai breastfed Joy until the girl was nearly 1 year old and then stopped. She said, *"My mother told me to stop breastfeeding. She said that Joy is old enough and my breast milk is no longer good because it has become clearer than it was."* After weaning, Umpai bought a carton of milk for Joy. She said, *"Joy doesn't eat rice well. I am afraid that she is hungry. But I have no refrigerator so I have to keep the milk at my neighbour's."* When Joy was 14 months old, she weighed 9.5 kg. A few months after weaning, Umpai went back to breastfeeding again. She said, *"We can't afford to buy any more milk. Joy doesn't eat much rice, so I decided to nurse her again. Luckily the milk still flows. My mother disagrees with me but my husband supports me. He said that he did not want Joy to be 'yhod nom' (become*

thin after being weaned from breast milk). *One of my neighbours also told me that she had breastfed her daughter for nearly 2 years. Anyway, Joy doesn't suck as often as she did before because she goes to 'rong-rien' (a day-care centre) during the day. When she stays home during the day, she sometimes asks for the breast, but she never sucks when we are out because she is always teased. When she is hungry she always asks me to take her back home.*" Umpai continued breastfeeding until Joy was 23 months old. By that time Joy weighed 11 kg.

Nonglak-Sak & Nhoi

Nonglak was 26 years old and her husband, Sak, was 27 years old. Nhoi, their daughter, was 8 months old and weighed 7.5 kg. Nhoi was breastfed both day and night and was also fed pounded sticky rice until she was 5-6 months old. Then Nonglak went back to resume working in the fields while breastfeeding Nhoi before and after work. During the day Nhoi was looked after by her grandmother and was fed prechewed rice with native food three times a day. Nonglak also bought Nhoi Ovaltine from the morning market. Nhoi did not accept much rice and rarely finished Ovaltine. Nonglak said, *"When I return from the fields in the evening, I nurse her immediately because she usually cries for milk. My mother said that she doesn't eat much rice. Nhoi sucks very fast when she's hungry. She wakes up 2-3 times during the night. Some nights I feel very tired because I have worked in the fields all day. But I won't wean her until she eats rice well."*

When Nhoi was about 10 months old, she was sent to the day-care centre in Ban Nang. Nonglak said, *"We have to send Nhoi to 'rong-rien' because my mother is not well. She cannot look after Nhoi any more."* Nonglak's mother said, *"Since Nhoi has grown up, she rarely stays still. She keeps crawling around and climbs up and down. I feel very tired after being with her all day. She likes going out because when her parents come back home in the evening, they often take her out. But I can't carry her as they do because I get tired easily. So she often cries to go out."* At the day-care centre she attended, Nhoi was fed boiled rice together with other young children by using the same spoon and dish.

Two weeks after she started attending the day-care centre, Nhoi had diarrhoea and Nonglak had to look after her at home for a week. When she recovered from diarrhoea, she was sent to the day-care centre again. A few days later, Nonglak attempted to wean her. Nonglak's mother said, *"When a child is about this age, breast milk is not 'good' any more. It is 'sour' especially when the mother has just come back from outside and she feels hot. It will make the milk 'hot' and 'sour', and the*

baby will have loose stools afterwards." Because Nhoi developed a fever and cough, and refused to eat rice, Nonglak continued breastfeeding, and this went on until Nhoi was about 13 months old. Nonglak said, *"Nhoi eats rice well right now. I feel comfortable about sending her to 'rong-rien'. I also buy her 2 bags [a small plastic bag] of 'ovaltine' everyday and she likes it."* When Nhoi was 16 months old, she weighed 10 kg. She had gained only 2.5 kg over the previous 8 months.

Summary

Various factors contribute to prolonged breastfeeding. There is a belief that "good" breast milk is white and 'khoon' (opaque), and is of benefit to infants. Conversely, there is the belief that breast milk turns "sour" and is no longer "good" when the child reaches about 1 year. Women who have support from their husbands tend to breastfeed longer than those who do not. The bond between mother and child influences the mother to continue breastfeeding. The child's refusal of solid foods, particularly when he or she is sick delays weaning for some time because the parents are afraid that the child will become thin after weaning.

WEANING PRACTICES AND INFANT CARE DURING LATE INFANCY

In the previous sections, weaning practices were discussed in terms of the practice of introduction of solids during early infancy. The weaning process occurs throughout the infancy period. In order to allow readers to understand the whole picture of the weaning process, the researcher will present excerpts from the stories of four women which illustrate weaning practices and infant care during the late infancy period and factors associated with these practices.

Umphan-Tom & Tawatchai

Tawatchai was the first son of Umphan and her husband Tom. The boy was 8 months old and weighed 9 kg. They lived in the same compound as Tom's parents. Umphan went back to work when her son was about 5 months old but she still breastfed him before and after work. Jan, the grandmother, looked after Tawatchai when Umphan was out. Jan said, *"I have many grandchildren but Tawatchai is the youngest one. I love him very much because I have looked after him since he was born."* During the day the boy was fed with prechewed sticky rice and native foods on demand. Jan said, *"He eats rice well."*

When Tawatchai was 10 months old, Umphan decided to wean him. She said, *"I think that he is old enough. I haven't slept well at night because Tawatchai often wakes up and sometimes he bites my nipple. Working in the fields all day makes me tired, so I need to sleep during the night."* Jan disagreed with Umphan. She said, *"I think that he is too young to wean from breast milk. I used to nurse my children until at least one year. Anyway, Umphan wants to wean him because she is too tired to wake up during the night."* After weaning, Tawatchai was sometimes given Ovaltine which Umphan bought from the morning market. He sometimes had loose stools afterwards but he recovered soon after being given an antidiarrhoeal drug. Jan fed him rice several times a day. She said, *"I often feed him because I don't want him to be 'yhad' (become thin). Luckily, he eats rice well."* The boy was also given a form of herbal medicine in syrup which is advertised as an appetite stimulant.

Tawatchai was still being looked after by his grandmother during the day at the time when the researcher left the field, even though most children of his age were already attending a day-care centre. Umphan said, *"I think that he is old enough to go to 'rong-rien' but his grandmother still offers to look after him at home."* Jan said, *"I told Umphan and Tom not to send him to 'rong-rien' because I am afraid that he will not be cared for. At home, I feed him whenever he is hungry. If he goes to 'rong-rien' I wonder if anyone will look after him as well as me. Some of our neighbour's children often get sick when they go to 'rong-rien'."* When Tawatchai was 17 months old, he weighed 10.5 kg. Although he had not gained much weight, he looked healthy and had not suffered any serious illnesses.

Pin-Phong & Keng

Keng was 11 months old and weighed 8.5 kg. He was the first son of Pin and her husband Phong. Keng was weaned from breast milk when he was 9 months old. Pin said, *"Before weaning, Keng had loose stools and my mother said that he had loose stools because my breast milk was 'sour'. The elders said that breast milk is 'sour' when a mother feels hot especially after returning from the fields. I had no time to take a bath because Keng was always hungry. I had to nurse him immediately, otherwise he cried a lot. When he recovered from having loose stools, I sent him to 'rong-rien' (a day-care centre) in Ban Nang because I have to go to work. Now Keng eats prechewed rice well. When he wakes up in the morning, he always cries for rice. I feed him with either grilled pork or fried pork skin. At 'rong-rien', the teacher told me that he had boiled rice and ate quite well too. When he returns from 'rong-rien' in the late evening, we feed him rice again and he usually eats well. During the night, he wakes up 2-3 times and I give him banana or biscuit. He likes banana. Some nights*

he has 3-4 bananas." Keng was fed with a considerable amount of prechewed rice and only 1-2 small pieces of grilled pork or fried pork skin. Pin's mother said, *"A child should eat a lot of rice but not much meat. One who eats a lot of meat will be 'pen doi' (become thin and have a big tummy because of intestinal parasites)."* When Keng wet his pants while being fed, the feeder [either Pin or her mother] took off his pants and wiped the floor with the wet pants and then continued feeding without washing their hands. At the day-care centre he attended, Keng was usually fed boiled rice together with other young children by using the same spoon and dish.

Three weeks later, Keng had severe diarrhoea and also vomited. He was taken to see the doctor at the private clinic and given an antidiarrhoeal drug to treat it but he developed abdominal distention instead. During that time, Keng ate very little and lost weight. His parents and grandparents decided not to send him to the day-care centre and Pin tried to breastfeed him again but Keng would not accept it. Pin, sometimes gave him Ovaltine but Keng had loose stools afterwards. Pin's mother said, *"The milk [sweetened condensed milk mixed in the drink] made him have loose stools. Pin had better not give him milk any more."* Pin, her mother and also Pin's grandmother took turns looking after Keng during the day for several weeks. When he recovered, Keng was sent to the day-care centre again.

Two weeks later Keng had an eye infection. He was treated with a traditional method and had to stay home for a week. During that time, he was not given eggs, chicken or mackerel as it is believed that such food would cause eye itching. When Keng was 17 months old, he weighed 10.0 kg. He had gained only 1.5 kg in the previous 6 months.

Somsri-Lek & Egapoj

Somsri, her husband Lek and their son Egapoj lived in the same house as Somsri's parents. Egapoj was 11 months old and weighed 8 kg. Somsri's mother, Ma, had helped Somsri look after Egapoj from the time he was born. When Egapoj was about 6 months old, Somsri went out to resume her work as a hired labourer but she still breastfed him before and after work. Ma looked after Egapoj at home during the day. Egapoj was fed with prechewed sticky rice and native foods three times a day. Ma said, *"Egapoj eats rice well. He likes 'kanom' (a type of sweet or dessert) too. Some days I spend 4-5 baht on buying him 'kanom', otherwise he keeps crying."*

A month later, Egapoj was sent to the day-care centre in Ban Nang. Somsri said, *"My husband and I have to go to work. My mother wants to go to work too. We think that*

Egapoj is old enough to go to 'rong-rien' but I won't wean him yet." Two weeks after he started attending the day-care centre, Egapoj had diarrhoea and had to stay home with his grandmother for several days. A week after recovering from diarrhoea, he developed an eye infection. After that, Somsri asked her mother to stay home and look after Egapoj. The boy did not have a serious illness during this period.

When Egapoj was about 16 months old his parents separated. Egapoj was fully weaned from breast milk because Somsri had to go to work in the factory in another district. The boy was sent to the day-care centre again because Ma had to go to work to support her family. Only 2 days after he started attending the day-care centre again, Egapoj had watery and bloody stools. Ma took him to the health centre. The rectal swab culture showed that he had cholera. Egapoj did not eat well for several weeks and lost weight. By the time he was 19 months old, he weighed only 10.2 kg. He had gained only 2.2 kg in the previous 8 months.

Summary

During the late infancy period, infants are cared for not only by mothers but also by whoever is available at home, mostly grandmothers, because mothers resume work outside the home. During the day they are fed with premasticated food which mostly consists of rice. Food taboos seem to prevent young children from having adequate nutrients, particularly sufficient protein. Once weaning is accomplished, an infant is rarely given dairy products. Many children over 10 months of age are sent to day-care centres which charge relatively low fees. However, as mentioned before [see Chapter Six, pp 115-116] the limited budget on which the centres operate means that the food children receive there is mostly of low nutritional value. In addition, the care provided is often unhygienic. However, most mothers accept the service because it allows them to work without the worry of childminding.

ROLE OF HEALTH WORKERS WITH RESPECT TO INFANT FEEDING

Although mothers prefer giving birth in the hospitals to giving birth at home, most babies are not taken to the Well Baby Clinics at the hospitals in town because of the inconvenience, transport costs, and time away from paid work. Apart from the leaflet concerning child care and feeding which is distributed to postpartum women, mothers have little chance to contact health personnel in the large hospitals. Babies are taken to be vaccinated either at the district hospital or at the subdistrict health centre.

The district hospital offers a vaccination service on the first and third Tuesday of the month and the subdistrict health centre offers the same service on alternate Tuesdays. According to the mothers who take their babies to the district hospital, the babies are weighed and vaccinated but the mothers are seldom given advice because the doctors and nurses are always busy. Therefore, mothers do not feel free to ask them questions.

As stated earlier [see Chapter Six, p 123], babies who are taken to be vaccinated at the health centre are not weighed unless the mother requests it. The staff of the health centre said that the babies are weighed at home by the volunteer health worker every 3 months. They are vaccinated and given antipyretic medication. Advice concerning infant feeding is sometimes given but not regularly. One of the staff at the health centre said, *"I always tell mothers to breastfeed as long as they can but some of them said that they have to go back to work, so they cannot nurse during the day. I know that some poor mothers bottle-feed their babies even though they stay home during the 'eu duan' (the first postpartum month) period because the husbands come in and ask for milk powder. Unfortunately, our budget has run out. We cannot provide it any more. The government policy is to encourage breastfeeding too. So the milk companies have been told to stop distributing formula samples."*

As regards weaning foods, one of the staff of the health centre said, *"I often tell mothers not to feed rice early but I know that they don't take my advice because the elders always tell them to feed rice early. We cannot do much about this matter. It is difficult to change them. The office jobs always keep us busy. We haven't had time to visit them at home."*

The major functions of the volunteer health workers related to child health is to detect malnutrition among the under-fives by weighing them every 3 months, and to give advice to mothers about infant feeding. One of these health workers said, *"When I had a baby I tried not to feed him rice early but he kept crying at night. My mother told me to feed him rice and he slept well after having rice. So how can I tell the others not to feed rice to their babies when I know that it does work. If a baby cries a lot at night, a mother is often asked if she is caring properly for her baby."*

Summary

Community health workers exert only limited influence on infant feeding practices in Ban Dee. Their infrequent contacts with mothers of infants and young children mean that they have few opportunities to offer advice. Since the advice goes against

traditional beliefs, as well as usual work and child care patterns, it is not readily accepted. Furthermore, many of the poorer families lack the financial resources to follow advice which would require them to buy nourishing but relatively costly food for their infants, or delay a mother's return to paid work.

SUMMARY AND CONCLUSION

This chapter has dealt with study findings related to the infant feeding pattern. Several common themes emerge from the data.

First, although all mothers initiate breastfeeding, successful lactation during the initial period depends largely on support and advice from kin and neighbour networks. Most newly delivered mothers are provided companionship by kinswomen, mostly mothers or mothers-in-law, during the weeks following childbirth. These kinswomen give advice about infant care and feeding, and actively help the husbands in the performance of household chores and cooking. Thus, mothers can spend most of the time during the early postpartum period on infant care and feeding. Even though some mothers have anatomical problems, they breastfeed successfully because of the advice, support and encouragement from their kinswomen and female neighbours who have breastfeeding experience. Most breastfeeding mothers view breastfeeding as convenient for them because it is available all the time and it does not need to be prepared. Conversely, mothers who lack strong support and are not actively helped by kin and neighbours, are unlikely to breastfeed successfully. These women tend to introduce bottle-feeding to their babies early. Another factor that is likely to work against the establishment of breastfeeding is the hospital practice which initiates bottle-feeding. First-time mothers think that their babies will become familiar with milk formula and then refuse their breast milk. Some even prepare to bottle-feed the babies when returning home.

Second, the beliefs about breast milk and its effect on child growth play an important role in breastfeeding. The reason behind the belief that some women produce "good" milk and some do not do so is because the baby is seen as bringing in milk when he/she is born. Accordingly, a woman may yield "good" milk after giving birth to her first child but may not do so after giving birth to a subsequent child.

It is believed that "good" milk is white, 'khoon' (opaque) and sweet. Thus, infants who receive "good" milk will be easy to bring up because they will grow well and seldom get sick. Because of this belief, mothers who produce "good" milk tend to

breastfeed for a long period of time. Apart from the belief about "good" milk, factors contributing to prolonged breastfeeding are the bond between the mother and infant, and support and encouragement from the husbands, kin and neighbours. For some mothers, a strong feeling of bonding and affection for the baby make them reluctant to wean or to introduce bottle-feeding. This is reinforced by the support and encouragement of the husband and neighbours. The husbands encourage their wives to breastfeed in a variety of ways. These include allowing the wife to stay home in order that she can care for and nurse the baby, giving verbal support, and babysitting when free from work. The woman is rewarded by neighbours admiring the baby and commenting on its healthy and attractive appearance, which, in turn encourages mothers to continue breastfeeding.

Conversely, breast milk which is clear and not white, is believed to be "bad" milk. It is believed that children who receive "bad" milk will be difficult to bring up because they will grow slowly and often get sick. Apart from the belief that the baby brings in "bad" milk when he or she is born, some mothers over thirty believe that they are too old to yield "good" milk even though they eat food recommended by health personnel or the herbal drinks recommended by the elders. Thus, mothers who believe that their breast milk is "bad" are likely to give up breastfeeding early.

Although women produce "good" milk and have breastfed successfully, it is believed that breast milk becomes sour and is no longer "good" when a child nears its first birthday. The basis of this belief is that when a child is about 5-6 months mothers usually go out to work during the day. When returning home they nurse the babies immediately because the babies are hungry even though they feel hot from the temperature outside. It is said that when the mother feels hot, the milk is hot too and sours easily. This belief is confirmed when the babies have loose or watery stools.

Apart from the beliefs about breast milk, the duration of breastfeeding during the late infancy period is influenced by both the child's acceptance of solid food and the occurrence of sickness. At the age of 5-6 months children are introduced to pre-masticated food. Once pre-masticated food is accepted well, a baby sucks less frequently than previously. This frees the mother to go out to work without the worry that a child would be hungry at home. Some mothers partially breastfeed for some time. Others tend to stop breastfeeding soon after the babies accept solid food well. This occurs especially with those whose babies wake up often at night because they are tired from the hard work during the day. On the other hand, if a child does not eat solid food well, the mother tends to delay weaning as she is afraid that the child will become thin.

Similarly, if a child is sick during the late infancy period, the mother is likely to postpone weaning because a sick child will often accept only breast milk. The father who has experienced the sickness of a previous child may also encourage his wife to continue breastfeeding until the child recovers. Thus, weaning is delayed for some time. However, if the mother believes that her milk has become "bad", this may lead her to stop breastfeeding as soon as the child recovers.

Third, in addition to the beliefs about "bad" milk and lack of support and advice needed for successful breastfeeding, various other factors also influence mothers to bottle-feed. These include the mother's work patterns and the experience with a previous child. Mothers who state that they want to go out to work as soon as possible introduce bottle-feeding early to ensure that the babies will accept a rubber nipple. These mothers usually have experience of bottle-feeding from a previous child. After being bottle-fed for some time, babies often refuse to be breastfed. Then, the mothers complain that the babies reject breast milk because they do not have enough milk to satisfy the babies. So there is a vicious cycle set up. These mothers give up breastfeeding relatively early.

Due to a limited budget, poor mothers who rely on bottle-feeding tend to overdilute powdered milk to make it go further, or use other, usually unsuitable, milk products such as sweetened condensed milk. For the same reason solid foods are introduced early and given in quantities that the babies will accept. Bottles and rubber nipples are unlikely to be cleaned properly because the mothers do not understand the need to do so. Some mothers prop-up the bottle so that they do not need to hold the babies while feeding, thus, freeing them to do other jobs. This practice may lead to inadequate intake, or even incidents of aspiration pneumonia which may develop after a baby inhales milk into its lung.

Fourth, solid food is introduced early whether the babies are breastfed or bottle-fed. Infant's crying, particularly at night, is interpreted as a sign of hunger for solid food. It is believed that rice is essential for child growth. The basis of this belief is that rice in the form of a solid can be retained in the body, whereas most of the milk is lost at once because the babies often urinate after having milk. The belief is confirmed when, because of feelings of fullness, the baby sleeps well and does not suck as frequently as he/she has done previously. Thus, the mother is free to do other jobs during the day. Furthermore, a bottle of milk formula may be replaced by solid food at least once a day, so that a tin of milk powder will last longer - an important consideration for those on a low family income.

The practice of the early introduction of solid food is reinforced by husbands and neighbours. As the husband usually works hard during the day, he needs rest at night. If the baby sleeps well and seldom cries, the husband is able to sleep well but if the baby cries a lot the husband is not able to sleep, which in turn affects his ability to work well. So a husband often encourages his wife to feed rice to the baby. In addition, as the villagers usually live close to each other, a mother is always concerned that her infant's crying may annoy her neighbours. If the baby sleeps well and seldom cries, the mother is admired by the neighbours for her mothering skills. Conversely, if the baby cries a lot the mother will be frequently asked how well she is looking after the baby or if there is anything wrong with the baby. This pressure influences the mother to adopt the method that keeps the baby quiet.

Fifth, when they are 5-6 months old, most infants are breastfed only when the mothers are free from work. During the day infants are given weaning foods which consist of a large amount of rice and a small amount of meat. Most babies over 10 months are sent to day-care centres where, due to a limited budget, they are fed with food which has little nutritional value. These babies have a high degree of exposure to infections, partly because the caregivers offer poor hygienic care. Thus, gastrointestinal infections and respiratory infections are common and have a negative effect on the children's nutritional intake, and growth and development.

Birth weight of a healthy infant normally doubles by 5 months and triples by 12 months and by the age of 24 months the infant usually has gained four times his/her birth weight (Tontisirin & Winichagoon, 1984; James & Mott, 1988). [see Standard Growth Chart for Thai Children, Appendix 4] Data from this study, showing that during the first 6 months, most infants gained weight well [see Figure 8.1 and 8.2]. Although it is not expected that weight gain after the age of 6 months occurs at the same rate as the first 6 months, the weight gain by the majority of infants in this study was likely to be below the norms specified above, as shown in figure 8.2.

Sixth, the health workers' efforts at health education are unlikely to have a positive impact on the nutrition and health of infants. The community health workers are not able to gain trust and cooperation from the villagers because of limited contact. Often the advice from health workers conflicts with traditional beliefs and is incompatible with the mothers' economic situation and daily life patterns. The villagers who act as the volunteer health workers lack adequate knowledge and confidence to work against traditional beliefs and social norms, partly because they are not adequately supervised or supported by community health nurses and community leaders.

In the following chapter, various themes presented in this chapter along with those described in the previous three chapters will be integrated and interpreted. Their interrelationships will be elaborated on in a discussion of the conceptual account developed from the study.

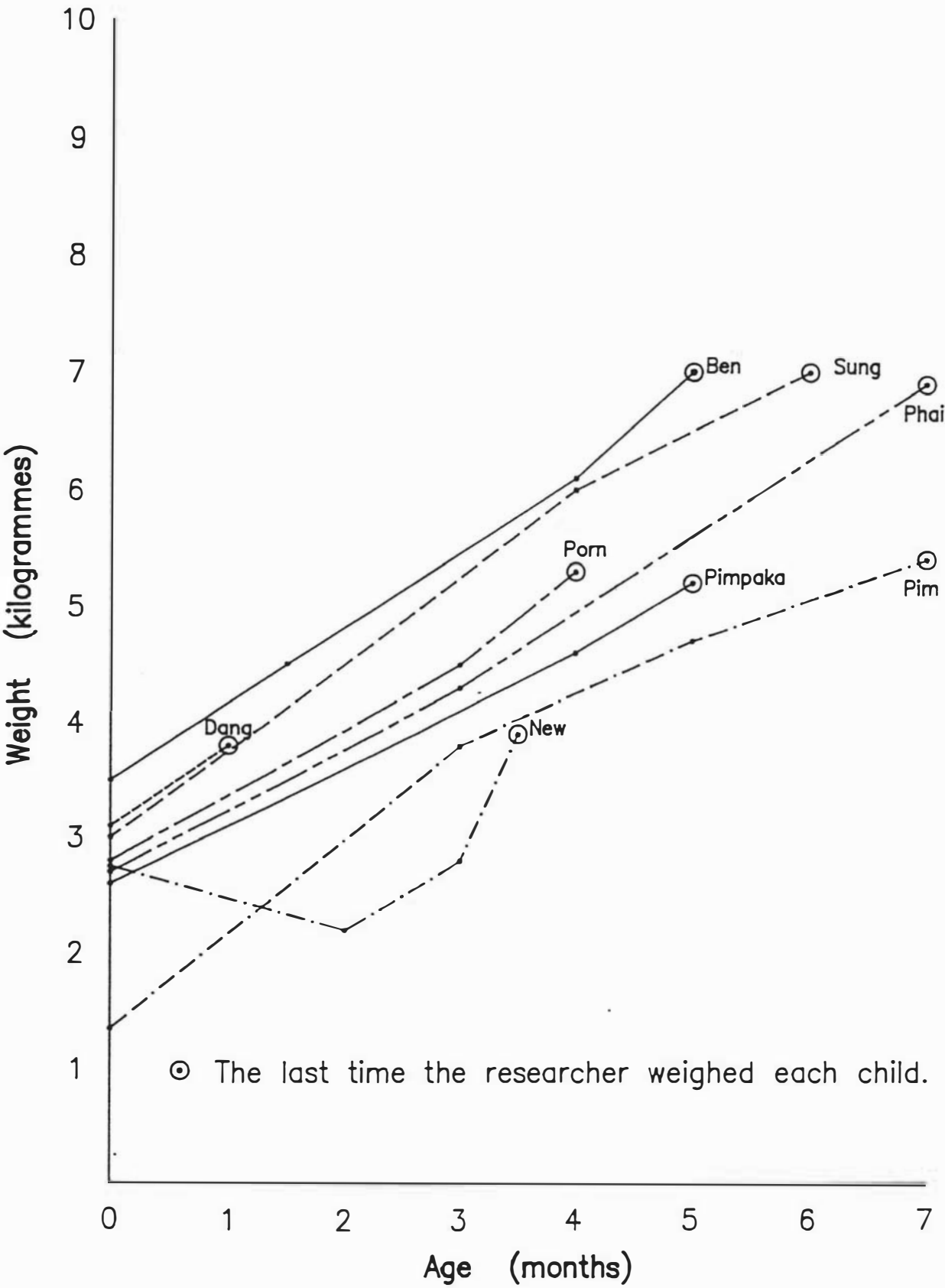


Figure 8.1 Weight gain during the first six months.
(These children were born during the researcher's fieldwork)

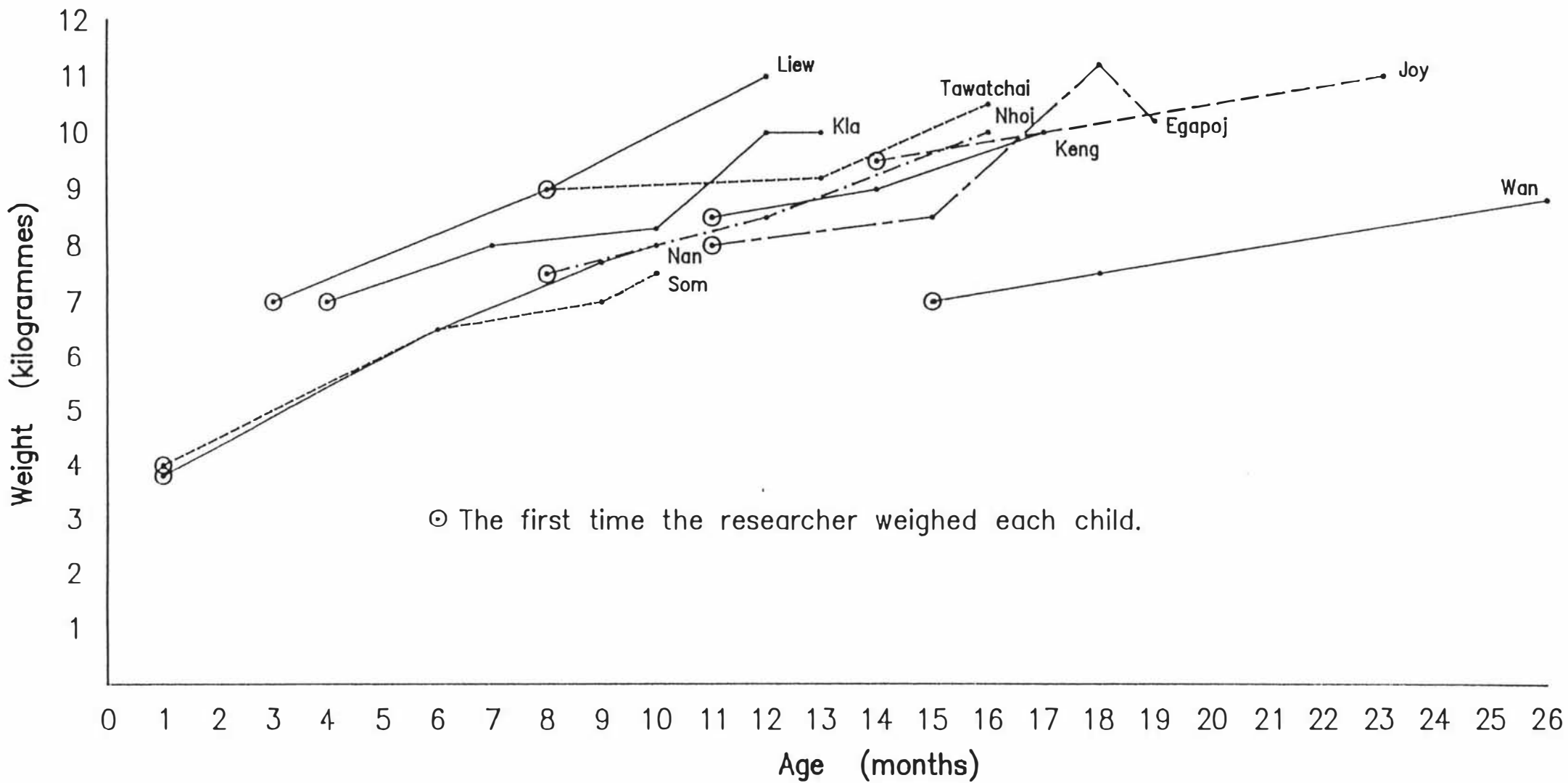


Figure 8.2 Weight gain after the age of 6 months
(These children were born prior to the researcher's fieldwork)

PART THREE

THE SIGNIFICANCE AND IMPLICATIONS OF THE STUDY

CHAPTERS NINE AND TEN

CHAPTER NINE

INTEGRATION AND INTERPRETATION OF FINDINGS

In the previous chapters different aspects of maternal and infant nutrition have been described. Chapters Five and Six concentrated on sociocultural factors that impact on the practices of mothers in relation to their own food and infant feeding. In Chapter Seven, the discussion emphasised the food beliefs and practices of mothers during the childbearing period. Chapter Eight concentrated on beliefs and practices of mothers relating to breastfeeding, artificial feeding, and weaning practices. In the present chapter, these various themes are brought together to provide a more integrated account of how pregnant women and mothers with infants manage nutrition in their everyday lives.

As data in the preceding chapters have shown, this study revealed few instances of either pregnant women or infants who appeared grossly malnourished. However it did confirm previous evidence that moderate malnutrition is widespread. The data help to explain why this situation persists in the absence of evidence of severe food shortages or extreme poverty. The women's own eating habits and how they fed their young children were shown to result from a network of interrelated factors which can be conceptualised as *pushes* and *pulls*. For instance, while a woman may want to maintain breastfeeding she is *pushed* in another direction by economic needs that require her to leave her infant in someone else's care and return to work in the fields. How she resolves the conflict is not a simple matter of what she might have been taught about the benefits of breastfeeding.

In this study a *pull* refers to a factor which influences a woman to adopt food choices and feeding patterns that are likely to be beneficial to the health of herself and that of the infant. Conversely, a *push* refers to a factor which influences a woman to do things that are unlikely to be beneficial to the health of herself and that of the infant. However, a *push* in one context may be a *pull* in another, as instanced later in this chapter. The terms *push* and *pull* came out of the researcher's later thinking about the data rather than any particular words used by the participants. Throughout the process of data collection the researcher had the sense that the women were trying to do the best they could for themselves and their children, within the limited resources and

knowledge, and with reference to their conflicting concerns for the rest of their families and fellow villagers. Other terms such as managing, compromising and coping were also thought of but they seemed not to characterise the situation.

As the study progressed it became increasingly apparent that far from being simply buffeted by these influences the women engaged in a complex pattern of ongoing decision making in which traditional values and beliefs, economic pressures, food availability, time factors, relationships within the immediate family and with other kin and neighbours, input from advertising and from health workers, and their own personal needs were balanced. The women had a rudimentary understanding of nutrition. Often they made a connection between what they ate and the effect on themselves, the developing foetus and the newborn child. Overall they were well motivated to do the best for their children, often articulating a (surprisingly) long term view that by looking after the health of their children they were ensuring that these offspring would grow into healthy adults with a greater likelihood of staying in work and therefore sustaining an income that would allow them to provide for aging parents.

In this study most women gave birth to normal babies, which suggests that they were not severely undernourished, although no direct measures of maternal nutrition were obtained. There were very few preterm or low birth weight infants. Most breastfed infants gained weight well during their first 6-8 months suggesting that the mothers were able to produce adequate milk. According to the weight for age standard, the general pattern of infant growth during the first 6 months was satisfactory but after that it tended to deteriorate regardless of whether the babies were breastfed or bottle-fed. Further, infants more than 6 months old often had infectious illnesses, so that the associated loss of appetite especially if associated with diarrhoea and vomiting aggravated their poor nutrition.

All mothers breastfed or at least initiated breastfeeding. However, the duration of breastfeeding varied. Some mothers stopped after 6 weeks, some stopped at 6-8 months, some continued for 12 months or more. Infants were breastfed and/or bottle-fed on demand both day and night for about 5-6 months, and were also introduced to solid foods at an early age. After the age of 5-6 months, during the day they were mostly fed with pre-masticated foods. Most breastfed infants were completely weaned by the time they were a year old, and no breast milk substitute was given after weaning. Similarly, bottle-fed infants were weaned from the bottle at the same age.

The data suggest that the child who is most likely to be well nourished is of normal weight at birth and largely breastfed for more than 6 months by a well nourished mother. Also, he/she would have been given weaning foods which have a high nutritional value at an appropriate time. In addition, he/she is unlikely to have developed frequent infections, diarrhoea in particular. Along with these factors an infant is most likely to be well nourished if he has a mother who has some understanding of nutrition. Another contributing factor is the mother being able to afford to buy appropriate foods. What was evident from the study was that for many complex reasons these conditions were not always present.

On the other hand the data also suggested conditions on the basis of which one could predict a poorly nourished child. A child who is most likely to be poorly nourished is one whose birth weight was low; who was bottle-fed particularly when, as was often found to be the case, the latter was done unhygienically and with an inadequate formula; or who was partially breastfed after the age of 6 months but by a mother who was poorly nourished. Additionally, the child is likely to have been introduced to a large amount of solids at a very early age and not to have been supplemented with high nutritional value foods from the age of 6 months onwards. Also he/she would have developed frequent episodes of infection which adversely affect nutrition of the infant. Along with these factors an infant tends to fail to thrive if he has a mother who has no understanding of nutrition and is extremely poor, which prevents a baby from receiving adequate nutrition.

It became evident that the above situations come about because of a balancing out action that occurred between a range of competing and complementary forces. Mothers were constantly trying to respond to the *pushes* and *pulls* in order to manage their resources in a way that was beneficial to the wellbeing of all family members. There are four main sources of *pushes* and *pulls* for mothers in their everyday lives: traditional beliefs; personal factors including attitudes, feelings, needs and experiences; sociocultural situations and changes; and government health services. *Pushes* and *pulls* were situationally different rather than reflecting any inherent direction of influence. A *push* for one woman may be a *pull* for another, or the same factor might act positively at one stage and negatively at another. Figures 9.1 through to 9.4 show that while some factors *pull* a woman towards doing things that are likely to promote good nourishment for herself and her infant, others *push* her away from doing so.

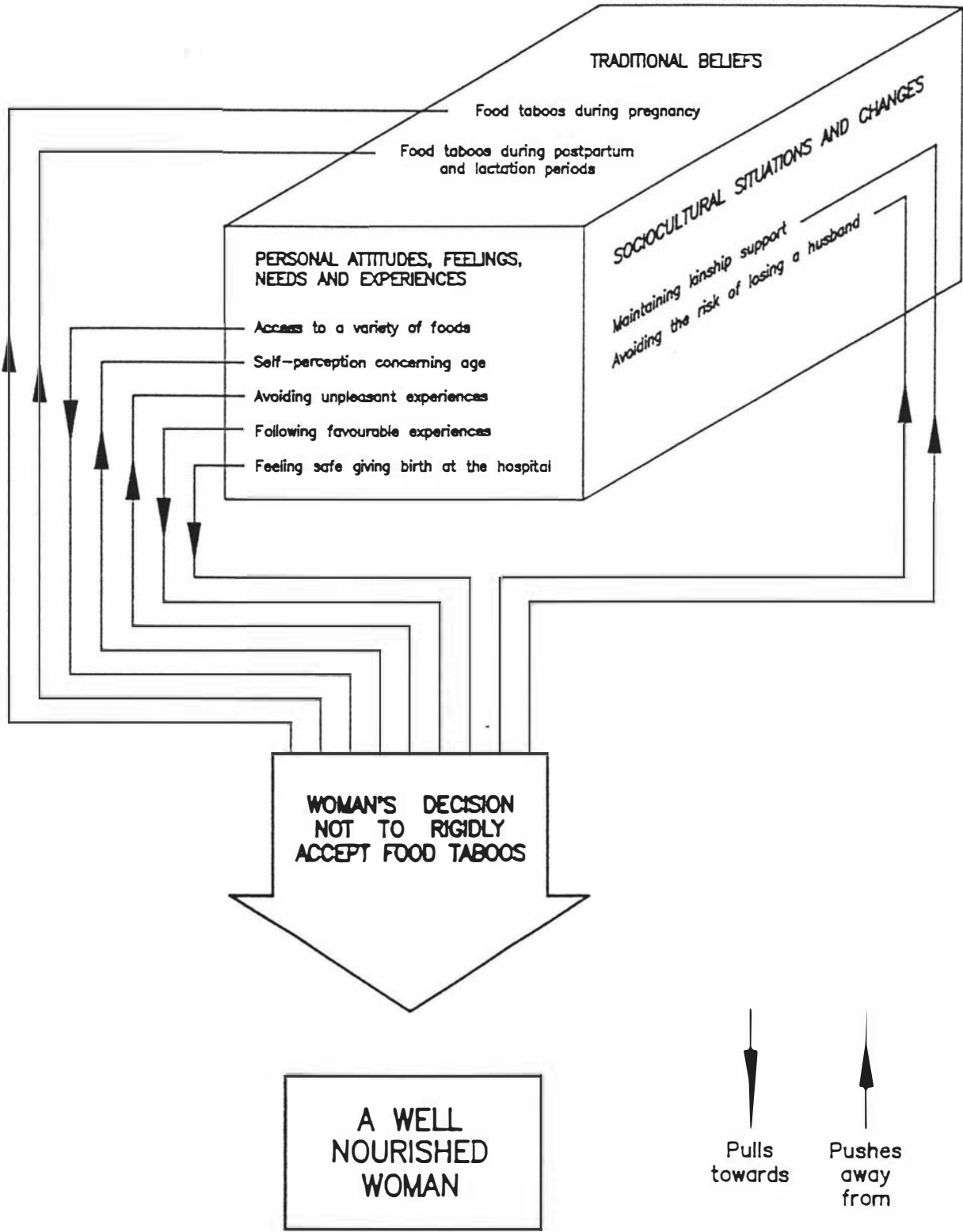


Figure 9.1 Factors influencing a woman's decisions relating to food taboos.

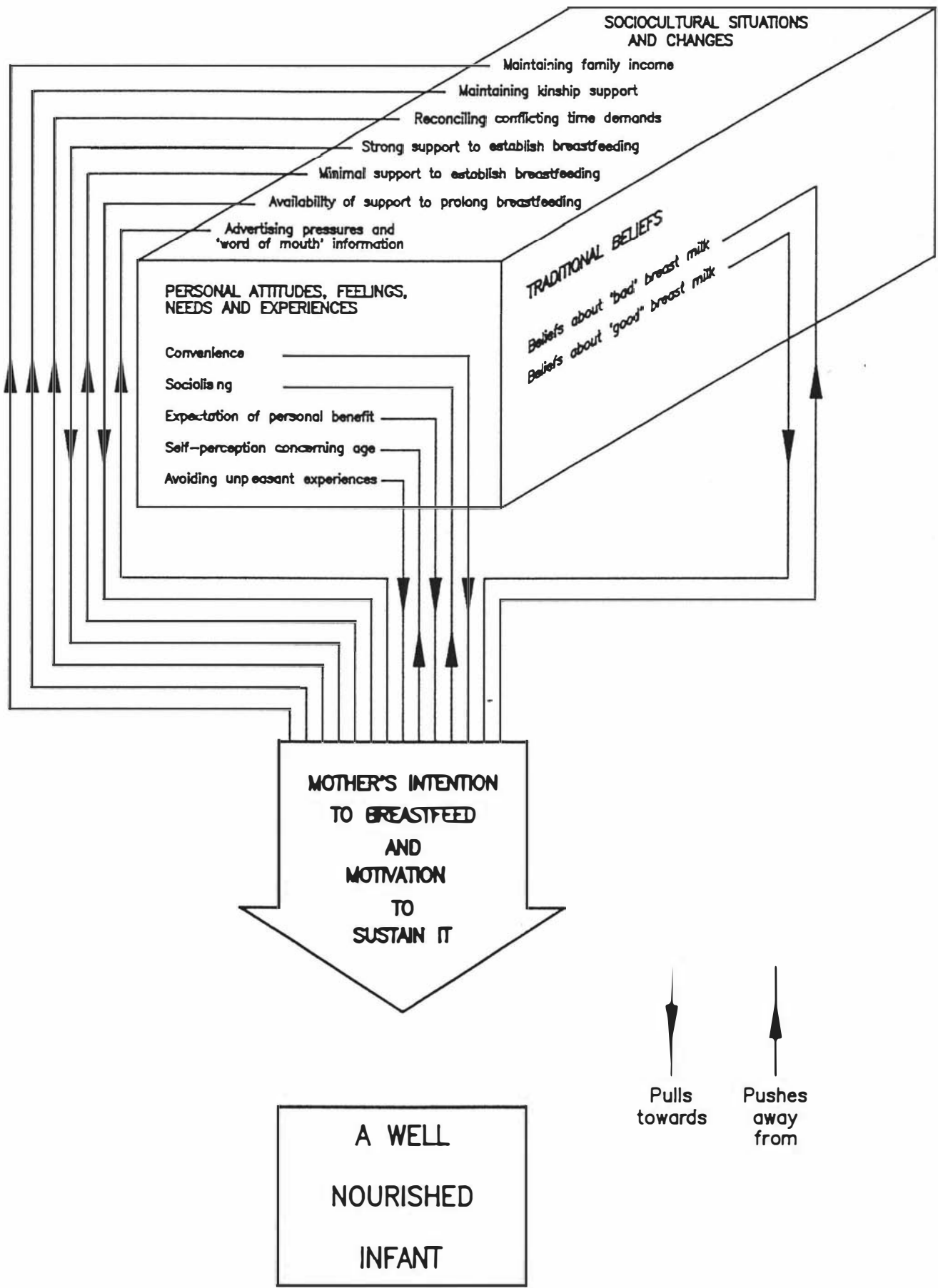


Figure 9.2 Factors influencing a mother's intention to breastfeed and motivation to sustain it.

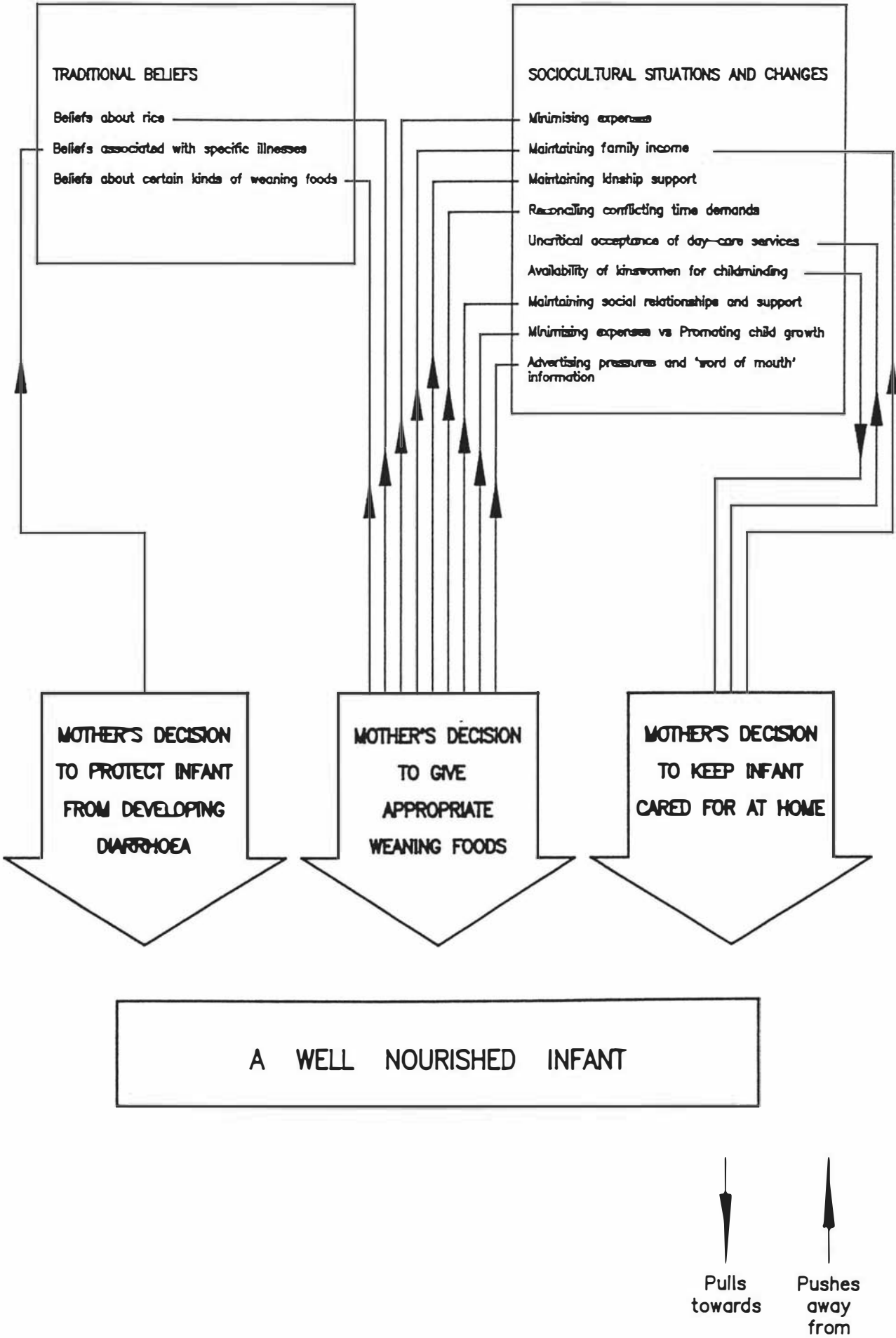


Figure 9.3 Factors influencing a mother's decisions regarding giving appropriate weaning foods, keeping the infant cared for at home and protecting the infant from developing diarrhoea.

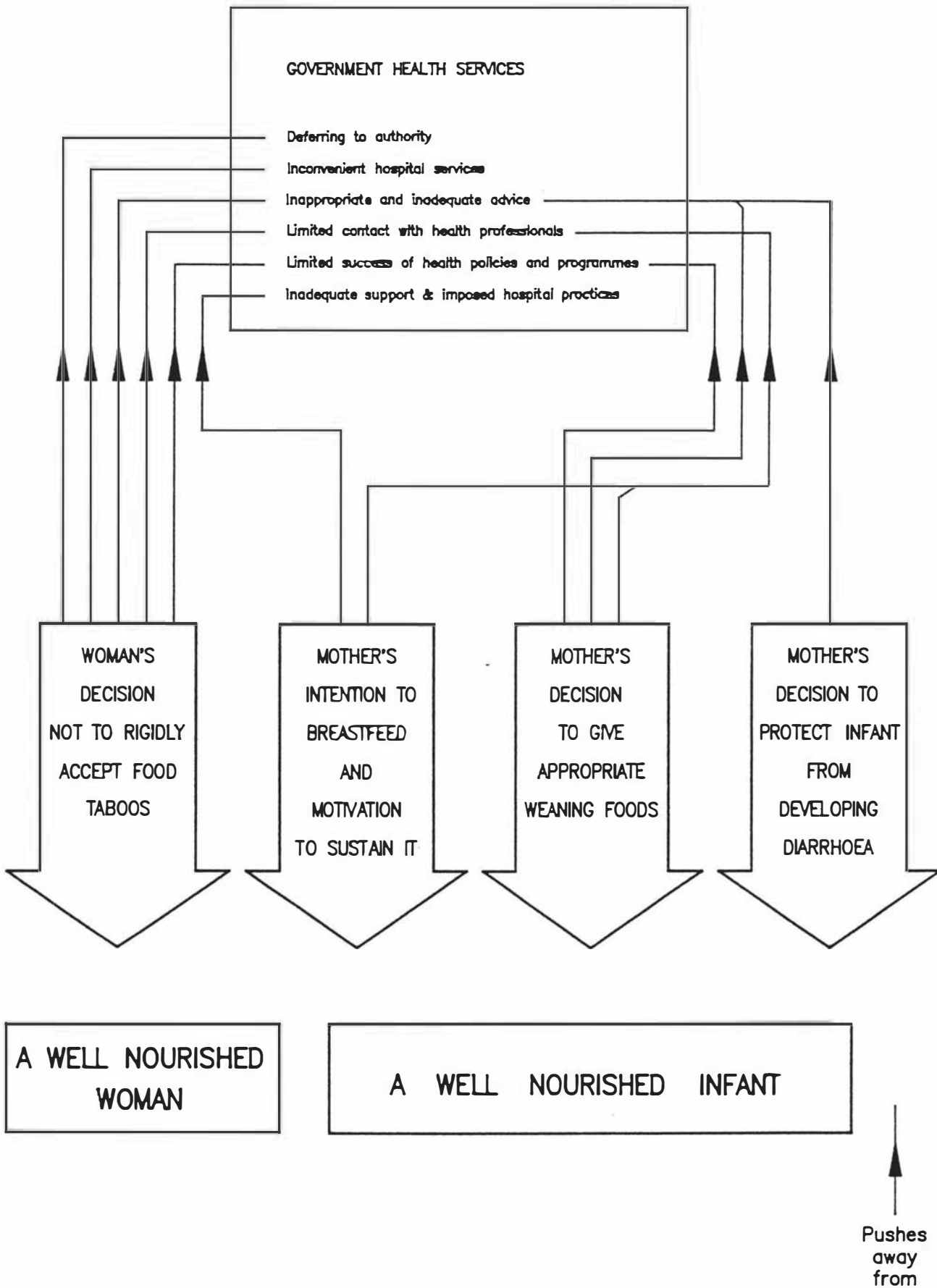


Figure 9.4 Factors related to government health services which influence a woman's decisions regarding her own food and infant feeding

PUSHES AND PULLS ARISING FROM TRADITIONAL BELIEFS

Mothers tend to adhere to traditional beliefs for a number of reasons to do with protecting their own health, protecting the health of their babies and promoting child growth. Although most of the beliefs are unlikely to be harmful to the health and nourishment of mothers and infants, a few of them are incompatible with adequate nutrition and therefore need to be addressed in health education programmes.

Food taboos during pregnancy

A pregnant woman is considered vulnerable to delivery complications such as miscarriage, prolonged and difficult labour and retention of the baby. However, observing food prohibitions is believed to help to avoid such complications. Foods frequently avoided during pregnancy are sweets, desserts and fatty or oily foods due to the belief that such foods would make a baby too big which may lead to a difficult labour.

Sweets and desserts are sugary foods which have a high carbohydrate content (Pyke, 1975). As the metabolic rate of women increases with pregnancy, an increased energy supply is needed to accommodate their greater energy needs (Ritchey & Taper, 1983). Avoiding sugary foods without sufficient replacement with other energy supplies may lead to inadequate energy intake. Fat is the most concentrated source of all nutrients and also serves as a vehicle for the metabolism and storage of fat soluble vitamins (Pyke, 1975). Low consumption of fatty or oily foods during pregnancy may lead not only to an inadequate energy supply but also to fat soluble vitamin deficiency (Pyke, 1975; Clark, Affonso & Harris, 1979).

Food taboos during postpartum and lactation periods

Likewise, food prohibitions of mothers during the postpartum and lactation periods are believed to protect mothers and babies from certain sicknesses. It is believed that because a woman loses a large amount of blood and "air" during the process of labour, she is in a dangerous state of bodily imbalance and so is susceptible to the disease called 'lom phit duan' (wrong menstrual wind illness). Avoiding certain types of food is believed to help prevent the disease. Beef is frequently avoided as it is considered poisonous for childbearing women. As beef is a good source of protein and iron (Pyke, 1975), a woman who avoids eating beef, and has inadequate replacement of other kinds of food which contain high protein and iron, is more likely to develop protein deficiency and iron deficiency anemia. According to Amatayakul (1986), iron

deficiency is the main cause of anaemia in low-income pregnant women in northern Thailand. Avoidance of iron-rich food following childbirth may aggravate their anaemic condition.

It is also believed that the foods a mother eats are transferred to the baby through breast milk. Thus, the physical properties of food are thought to be related to infant sicknesses. The sicknesses frequently mentioned are infected navel and diarrhoea. An infected navel is called "wet" navel. To protect the baby from this sickness mothers are told to avoid "wet or watery" foods, such as curry sauce until the baby's cord drops off. Most lactating women are forbidden to eat hot chilli, spicy foods, sour fruits, pickled foods and fermented foods throughout the lactation period as it is believed that such foods often cause loose or watery stools in the infant. Although these foods are not very important in terms of nutritional value, their flavour may enhance appetite which in turn increases the food intake of the women.

Beliefs about breast milk

Of particular importance are distinctions between "good" and "bad" breast milk. Although breast milk generally is believed to protect the health of the baby and promote child growth, there is a distinction made between "good" and "bad" milk. It is believed that "good" breast milk is white and 'khoon' (opaque), and an infant who receives "good" breast milk will thrive. Mothers with "good" breast milk tend to breastfeed for a long period, at least 6 months. Conversely, it is believed that breast milk is "bad" when it is clear and not white. A mother may yield "bad" breast milk immediately after giving birth or after breastfeeding for some time. Infants who receive "bad" milk will be difficult to bring up because they will grow slowly and often get sick. It is also believed that breast milk may become "bad" when a child reaches 1 year of age, particularly when the mother feels hot because of high temperatures outside. It is said that when a mother feels hot, the milk is also "hot" and "sour" and as a consequence the baby may have loose or watery stools. Therefore, to prevent sickness, the mother is told by the elders to stop breastfeeding. Infection as a cause of diarrhoea and the possible sources of infection are not well understood.

Beliefs about rice

Solid foods, rice in particular, are introduced to babies early as it is believed that rice is essential for child growth. It is said that rice can be retained in the body, thus making the baby grow well. Further, the sound of an infant crying, particularly at night, is

interpreted as a sign of hunger for rice. The belief is confirmed when the baby sleeps well because rice make him/her full.

Although studies have shown that a gradual introduction of supplementary food does not have any effect on the level of prolactin (Howie, McNelly, Houston, Cook & Boyle, 1981; Lunn, Prentice, Austin & Whitehead, 1980), it is accepted that the maintenance of successful lactation depends upon a continuing adequate stimulus provided by the infant (Whitehead, Rowland & Hutton, 1978). Breastfed infants who are fed a large amount of rice may suck less frequently than previously. This, in turn, may adversely affect milk production. Similarly, infants receiving formula plus a variety of solid foods are provided with a high dietary kidney workload and may be at risk of electrolyte imbalance in the event of illness, and predisposed to hypertension as adults (Marlin, Picciano & Livant, 1980).

Beliefs about certain kinds of weaning foods

The beliefs about weaning foods during late infancy are also associated with protecting infants from certain sicknesses. It is believed that eating a large amount of 'kong whan' (sweet foods) could cause a sore mouth, and consuming a large amount of meat could cause parasitism in young children. To protect them from these sicknesses, infants are fed only very small amounts of sweet foods and meat. The factual basis for these beliefs was not stated explicitly. Most mothers said that they were told about these consequences by the elders.

There is an assumed link between certain kinds of food and the process of wound healing. One who has a wound or ulcer or even a skin rash from a viral infection such as measles and chickenpox is usually forbidden chicken, eggs and mackerel due to the belief that such foods would cause itching and scars. It is believed that pork is the only meat that can be eaten during the period of wound healing.

Infants during the late infancy period need additional foods to make certain that they continue to have enough energy, protein, and other nutrients to grow normally. Breastfed infants need a protein supplement because the proportion of protein in breast milk begins to decline after 9 months of lactation (Lawrence, 1985). An infant who is forbidden to eat meat and eggs, which are good sources of protein, is likely to develop protein deficiency if the diet is not supplemented with other kinds of protein-rich food. Also protein is an important nutrient for tissue building and rebuilding (Luckmann & Sorensen, 1980). Inadequate intake of protein-rich food such as meat and eggs may delay the process of wound healing.

Beliefs associated with specific illnesses

Commonly mothers see or treat certain sicknesses as normal. For instance, diarrhoea when it occurs during the initial period of a significant stage of development, such as when a baby is starting to crawl or sit, is viewed as a natural process which does not need treatment. The fact that the infant is becoming mobile and has access to a range of people and environments may increase his/her vulnerability to disease. Only if the symptoms last for several days and the baby does not suck and eat well, is the mother likely to seek treatment. For example, Naree's daughter, Liew, had greenish watery stools when she was starting to crawl. Naree said that her first son used to have these symptoms when he was starting to sit, and the boy recovered by himself. Thus, Liew was not given any treatment during the first 2 days. However, when she did not recover and was becoming weak, her parents took her to the doctor. Liew recovered a few days after being given an antibiotic drug [ampicillin]. During the period of sickness, Liew did not eat and suck well. Naree said that she should have taken Liew to see the doctor earlier than she did.

According to Brown (1978), recurrent diarrhoea results in further deterioration of nutritional status due to lowered appetite, substitution of still less nourishing foods, and increased metabolic loss of essential nutrients. In Thai children diarrhoea is found to contribute significantly to the development and progression of malnutrition (Tontisirin & Hongsumarn, 1986). These authors point out that this is because the infant with diarrhoea loses appetite, and is unable to absorb food properly. Tontisirin and Valyasevi (1981) reported that the major contributing factors to PEM associated with diarrhoea were the decline in breastfeeding and unhygienic preparation of artificial feeding. Komphayak (1979) studied how well prepared in the techniques of artificial feedings were the mothers of infants in Bangkok who developed diarrhoea during their first 3 months of life. It was found that only 10% of the mothers had adequate knowledge and proper facilities for artificial feeding preparations.

PUSHES AND PULLS RELATED TO PERSONAL ATTITUDES, FEELINGS, NEEDS AND EXPERIENCES

In addition to traditional beliefs, mothers are influenced by their personal attitudes, feelings, needs and experiences. Some of these individual attributes are beneficial to the nutrition of infants, particularly in relation to breastfeeding. Others are neutral, and some interfere with adequate nutrition. Thus, these personal attributes need to be considered if health educational programmes are to be effective.

Convenience

Most breastfeeding mothers viewed breastfeeding as convenient for them. Naree, Tamol, Sri, Nong and Ulai said that breastfeeding was convenient because milk was available all the time, so they did not need to prepare it.

Mothers who breastfeed for nearly a year or longer view breastfeeding as convenient both for themselves and for the babies. As mothers and infants usually sleep close to each other, it is handy for the infant to find the nipple and suck without waking up the mother. Pen who breastfed her sixth son for nearly a year, said that he just crawled towards her and sucked, and then he went back to sleep when he had had enough. Ulai breastfed her third daughter for nearly 2 years. She said that when her daughter, Wan, was more than 1 year old the girl seldom woke up during the night. Pen and Ulai stated that they would continue to breastfeed until their babies weaned themselves.

Expectation of personal benefit

Mothers who breastfeed are strongly influenced by the expectation that while they looked after their children when young, in turn the children would look after them when they themselves became old. In order to give good care now, so that they can receive it later in life, some mothers breastfeed both day and night for an extended period. Buapud was an extreme example of this expectation. She was a disabled woman who had no husband. Her life was totally dependent on her father and brothers. She spent most of the time looking after her son and nursed him whenever he cried. Buapud said that she wanted her son to be strong and grow up well, expecting in return that as an adult he would look after her.

Self-perception concerning age

Some mothers who had difficulties in giving birth, and in breastfeeding, put it down to their age. Thim was 33 years old when she became pregnant with her second child. She said that she was rather old for pregnancy, so she followed food prohibitions strictly in order to avoid delivery complications. After 2 months of partial breastfeeding, her milk flow decreased, which she said was because she was too old to yield breast milk. Similarly, 42-year-old Kiew, herself poorly nourished, gave birth to a low birth weight infant. When her milk did not flow well and the baby rejected the nipple, she explained that she was too old to breastfeed. Kiew's neighbours, Naree and Ulai, agreed that Kiew was probably too old to yield "good" breast milk, so further reducing her confidence.

Socialising

Some women have more opportunity to be involved with the outside world than others, which leads them to value socialising. This can discourage women from breastfeeding as indicated in the following examples. Thim worked as a trader at the district market where she usually met a number of customers and friends. After giving birth Thim started bottle-feeding her daughter while partially breastfeeding. She explained that she wanted to resume work because she did not like staying home all day. Pui, who used to live in Bangkok with her sister for some time, did not like staying home all day and wanted to work outside the home as soon as the postpartum period was over. Despite the family having only a low income, Pui bottle-fed her son while partially breastfeeding, and then eventually stopped breastfeeding.

Feeling safe giving birth at the hospital

Some women stated that they would be safe in giving birth at the hospital because the doctor was highly skilled. These women did not take food prohibitions seriously. Sompong and Sri ate a lot of oily and sweet foods during pregnancy. They said that the doctor did not forbid them from eating such foods, and they hoped that they would be safe because the doctor was highly skilled. Thus these women were giving relatively greater importance to western medical practices than to traditional beliefs.

Access to a variety of foods

Another factor which influences pregnant women not to adhere strictly to food prohibitions is the opportunity to have access to a variety of foods. Sompong was a fruit seller at a big food market. She said that she could not resist eating sweets and dessert. Another instance was Sri who lived close by the village market. She said that she was not able to resist eating sweets and fatty foods even though she was told by the elders not to eat a lot of such foods. Sompong gave birth to her baby without any delivery complications. Sri gave birth at the big hospital by forceps extraction as the baby was big. In the elder's opinion, the baby was big because Sri ate a lot of desserts and oily foods.

Following favourable experiences

Some pregnant women followed the experiences reported by other women who had no delivery complications with previous births despite the consumption of prohibited foods. Nong ate small eggplants during pregnancy even though she was told by the

elders that it could cause anal pain after delivery. Nong said that she craved the food, and one of her neighbours told her that she had eaten small eggplants during pregnancy and did not have anal pain after delivery.

With regard to their food practices during the postpartum period, some mothers learned that eating prohibited foods did not result in infant sicknesses, therefore, after giving birth they did not avoid such foods. Pui and Thim acted in this way. Thim ate curry sauce before the baby's cord dropped off because she became bored with eating only grilled pork and rice all the time. She said that she had some curry sauce after giving birth to her previous child and the baby was not affected. Pui ate chicken when her baby was 10 days old even though she was forbidden to do this during the early postpartum period. She said that she had eaten chicken after giving birth to her first child, and both she and the baby were alright.

Avoiding unpleasant experiences

In order to protect their own health and that of their babies, mothers attempt to avoid repeating both their own unpleasant experiences and those reported by other women. Five points will be considered in this context. Firstly, some mothers, for example, Umphan and Thim, had personally experienced delivery complications with previous births. Umphan had one miscarriage and had waited for many months before becoming pregnant again. During the pregnancy period Umphan took food prohibitions seriously, especially sweet and oily foods, because she was afraid that the baby would be too big to be delivered. Thim had experienced long labour pains when giving birth to her first baby and she thought that it was because of it being a big baby. She did not eat much dessert when she was pregnant with her second child.

Secondly, some women were told that their kinswomen died because of the sickness called 'lom phit duan' (wrong menstrual wind illness), so they strictly avoided the foods which are believed to cause the illness. For example, Naree was told that this sickness was the cause of her mother's death. According to Naree's aunt, Naree's mother fainted very often after smelling the odour of curry cooked with chicken and melon, and eating crab paste. Naree said that she avoided eating certain kinds of foods during the postpartum months because she did not want to be sick like her mother.

Thirdly, some mothers stated that the infants were sick after the mothers ate certain types of food. As it was believed that the food a mother eats would transfer to the baby through breast milk, these mothers avoided such foods throughout the lactation period. These experiences occurred with Buapud and Sompong. Buapud ate a certain

type of fish in the evening and her baby cried a lot that night. Buapud's father explained that the baby had 'jeb thong' (a stomachache) probably because Buapud ate the fish. Buapud said that she would no longer eat the fish because she did not want the baby to be sick. Sompong had some oranges as she had not moved her bowels for several days after delivery. But she had to stop having them, and had an enema instead, because her baby had loose stools and her breast milk had a yellow colour.

Fourthly, some mothers had personal experience of their previous children being seriously ill after being weaned from breast milk. These mothers breastfed for a longer period or delayed weaning for some time. Pen began to wean her fifth child, Geng, when the boy was 8-9 months old. Soon after that Geng was seriously ill and did not eat. So Pen was told by the doctor to restart breastfeeding. Pen attempted to wean her sixth son, Kla, when the boy was about 9 months old, but he was often ill at which time he accepted nothing but breast milk. Therefore, the mother had to continue breastfeeding until Kla was 13 months old. She said that she would not wean Kla until the boy stopped sucking by himself so that he would not be seriously ill like his brother.

Fifthly, some mothers were told about neighbours' babies who became thin after being weaned from breast milk. These mothers continued breastfeeding for a longer period. Naree had three children and she usually breastfed them for at least a year. Unlike many mothers, Naree did not go out to work when her children were 5-6 months old. Her husband allowed her to stay home and encouraged her to breastfeed. When Liew, her third daughter, was about 10 months old, Naree complained that she was sometimes bored with staying home all day. However, she still breastfed both day and night until Liew was 12 months old. Naree said that she would not wean Liew until the girl ate rice well because she did not want Liew to become thin like some of her neighbours' babies.

PUSHES AND PULLS ARISING FROM SOCIOCULTURAL SITUATIONS AND CHANGES

Within the structure of the extended family, a subsistence economy and changing patterns of village society, mothers are *pushed* and *pulled* by a number of forces and conditions. A few of these complement the existing pattern of breastfeeding, thus promoting adequate nutrition. The remainder are less likely to be beneficial to the nutrition of mothers and infants, while some, such as the need to minimise family expenses even interfere with infant growth. Therefore, these influences need to be taken into account in health educational programmes.

Availability of support to establish breastfeeding

Most mothers receive strong support from kin, husbands and neighbours to establish breastfeeding. Sompong, Sri, Tamol, Nong and Buapud were new mothers who had no breastfeeding experience. These mothers were not able to initiate breastfeeding while in hospital partly because they were not strongly encouraged by health professionals. When returning from hospital, they were encouraged and advised by kinswomen and female neighbours who had breastfeeding experience. Further, these mothers were provided with company and relieved from certain household chores by elderly kinswomen and husbands during the first postpartum month. This enhances successful breastfeeding. Some of these mothers had anatomical problems or physical disabilities. Nong had flat nipples, so the baby could not grasp the nipple properly and cried. She was told to draw the nipples out frequently, and keep nursing. Buapud's hands trembled, so she could not hold the baby's head properly. She was advised by her sister to lie down by the baby and push her nipple into the baby's mouth. These two mothers gradually gained skills in breastfeeding and were able to breastfeed successfully.

There is research evidence to show the importance of support for newly delivered mothers to establish breastfeeding (La Leche League, 1976; Raphael, 1976, 1981; Ekwo, Dusdieker & Booth, 1983). Women need the opportunity to rest after childbirth, to have their basic needs met by others when they are most vulnerable, and to have a supportive person to assist with breastfeeding management and care for the newborn (Van Esterik, 1989). Raphael (1973) uses the term *doula* to describe a woman who assists a newly delivered mother by cooking for her, helping with other children, and so forth.

Conversely, the data from this study showed that women who were not strongly encouraged and helped during the first postpartum month were unlikely to breastfeed successfully. Even though they initiated breastfeeding, these women tended to introduce bottle-feeding early, and eventually stopped breastfeeding. This was apparent with Thim and Pui as previously discussed. Thim's family lived some distance from their relatives, so she was not frequently visited by them. During the first postpartum month Thim's mother-in-law visited her sometimes but not regularly because she was busy with her own job. During the day Thim mostly looked after the baby by herself and also did light housework. Her husband, who was a school-teacher, helped her mind the baby after returning from work. Thim breastfed and also introduced bottle-feeding to her baby during the initial period, and gave up breastfeeding when her baby was about 2 months old. Another example was Pui,

who also started bottle-feeding early while partially breastfeeding. As Pui's mother was busy with her own job and Pui's husband had to go to work every day, Pui mostly cared for the baby by herself and also did housework. She stopped breastfeeding when New was about a month old.

Availability of support to prolong breastfeeding

Although they may establish breastfeeding, mothers still need support to continue breastfeeding for a longer duration, otherwise they tend to stop breastfeeding when the baby accepts pre-masticated food well. Some mothers were supported by husbands and neighbours to continue breastfeeding for more than 6 months. In the cases of Naree and Tamol, their husbands often encouraged them to continue breastfeeding. These husbands said that breastfeeding was convenient because it didn't need to be bought and prepared. They also took most of the responsibility of working outside the home, thus allowing the wives to breastfeed both day and night for at least a year. Further, the neighbours admired the babies as healthy and lovely, which in turn, encouraged Naree and Tamol to continue breastfeeding.

Another example was Umpai who stopped breastfeeding her daughter, Joy, when the girl was nearly a year old. Umpai was told by her mother that breast milk would become clear and no longer good when a baby was about a year old. However, as Joy did not accept rice well after weaning and Umpai was not able to afford to buy her daughter milk products, she went back to breastfeeding Joy until the girl was nearly 2 years old. She said that her mother disagreed with her but her husband encouraged her to restart breastfeeding. One of Umpai's neighbours who breastfed her baby up to nearly 2 years also encouraged Umpai to continue breastfeeding.

Several studies indicate that support from the husband or partner is particularly important with regard to the duration of breastfeeding, and that mothers who breastfeed longer receive significant help from the baby's father (Mackey & Fried, 1981; Yeung, Pennell, Leung & Hall, 1981; Bloom, Goldbloom, Robinson & Stevens, 1982). Similarly, women were grateful when others recognised the importance to them of breastfeeding and paid verbal tribute and provided active assistance to her (Auerbach & Guss, 1984). However, Morse and Harrison (1987) found that breastfeeding is encouraged by physicians, nurses, family and friends when the infant is newly born, but this support is withdrawn as the infant develops. They, therefore, suggest that the attitudes of others towards the breastfeeding mothers strongly determine the duration of breastfeeding.

Recognising the importance of support for breastfeeding mothers, the La Leche League was developed in Illinois in 1956 to provide these mothers with information, encouragement and moral support (Lawrence, 1985). The fact that by 1976 this organisation had extended to 43 countries, and 4,000 groups (La Leche League 1976) affirms the value of such support. This organisation does not yet operate in Thailand.

Availability of kinswomen for childminding

The availability of kinswomen for childminding at home allows the mothers to go out to work, thus maintaining family income. At 5-6 months infants are usually considered old enough to be minded by elderly kinswomen during the day. Nonglak, Pin, and Somsri had either their mother or mother-in-law to look after their children during the day when the latter were 5-6 months old. But when infants are nearly a year old, the majority of them are considered to be too active for the grandmothers to handle. Hence, they are sent to day care centres. Pin's son, Keng, was weaned from breast milk when he was 9 months old, and the boy was 10 months old when he first attended a day care centre. Nonglak's daughter, Nhoi and Somsri's son, Egapoj were still partially breastfed when they first attended day care centres at the age of 10 and 12 months respectively. These infants often had infectious illnesses, particularly diarrhoea.

However, some grandmothers continue to look after the infants even though the latter are beyond a year old. These grandmothers stated that the bond between themselves and the infants, along with the concern about infant care were both reasons for doing it. Further, their economic situation was such that they did not have to work outside the home. An example here was Umphan's mother-in-law, Jan, who actively helped Umphan look after her grandson, Tawatchai, until the boy was 17 months old. This was beneficial to the health of Tawatchai because he was not exposed to an increased risk of infections at an early age. The boy seldom had infectious illnesses compared with the infants of his age who attended day care centres.

Avoiding the risk of losing a husband

There is a link between the practice of food avoidances and a woman's attempt to avoid being deserted by her husband. Due to the belief that certain types of food could cause the illness called 'lom phit duan' (wrong menstrual wind illness) in childbearing women, the women may continue the practice beyond the first postpartum month. It is believed that the disease could occur at any time as a woman ages, and that no doctor can cure it. It is said that once a woman is sick with this illness her husband may

abandon her because she will never be cured. Most of the husbands said that the women had better obey the elders because the latter had a lot of experience. In addition, if the women were sick the elders would blame the husbands. To avoid the risk of losing their husbands, most women strictly avoided the foods believed to be the cause of the illness at least during the postpartum period, and some even did so for many years.

Maintaining kinship support

Women with young children are helped and supported by kinswomen in a number of ways. Therefore, mothers were inclined to follow the advice of kinswomen in order to maintain the support as illustrated in the following three points. First, during the weeks following childbirth, most women are helped and cared for by their kinswomen and husbands. This includes food preparation. Even though some women complained that they became bored with the foods, they had to eat what they were given. Tamol, for instance, after giving birth had only sticky rice and grilled pork for a week as it is believed that if a mother has watery foods, such as curry juice, the baby's navel will become wet and infected. When she complained that she was getting bored with the foods offered to her, her mother-in-law, who provided her with company and helped her care for the baby, encouraged her to continue abstaining. To retain this support Tamol put aside her own preference and avoided watery foods until the baby's cord dropped off.

Second, when an infant is 5-6 months old a mother usually goes out to work during the day, and the infant is cared for by kinswomen. The mother is told by kinswomen not to nurse her baby immediately upon returning from work because it is believed that breast milk is sour when a woman feels hot, and a baby could have loose stools afterwards. When Nonglak's daughter, Nhoi, was about 6 months old the girl was looked after by Nonglak's mother during the day. As Nhoi did not accept much rice, she was always hungry when the mother returned home in the evening. So Nonglak had to nurse her immediately. Two months later Nhoi had loose stools. Nonglak's mother said that it was because Nonglak's breast milk was sour and no longer good. To maintain support from her mother in terms of childminding, Nonglak began to wean her baby.

Third, solid foods are introduced early whether the babies are breastfed or bottle-fed. In the case of Sri and Tamol they knew from the leaflet distributed at the hospital that solid foods should not be given until a baby is up to 3 months old, but they were encouraged by their kinswomen to feed rice to the babies when the latter were about a

month old. Sri and her family lived with her aunt-in-law who helped her mind the baby and offered her accommodation. Tamol and her family lived in the same compound as her mother and sister who often visited her and helped her care for the baby. To maintain kinship support, these women followed the advice of their older relatives, and not the advice in the hospital leaflet.

Maintaining social relationships and support

Mothers and infants are usually visited by neighbours, thus making them feel supported and cared for. If the baby sleeps well and seldom cries, the mother is admired by the neighbours for this is thought to show that she cares for her baby well. Thus, the mother is given emotional support. Conversely, if the baby cries a lot the mother's competence as a mother may be questioned, and she will be asked if there is anything wrong with the baby. To maintain relationships and support from neighbours, mothers attempt to keep the babies quiet by feeding the latter solid foods. This was observed in a number of instances. Kiew was admired by her neighbours for caring for her daughter Pim so well that they rarely heard Pim cry at night. They often encouraged Kiew to feed Pim as much rice as she would eat. Sri's son Ben cried a lot at night when he was about a month old even if Sri often put him to the breast. Sri was told by the elders that the baby cried for rice, so she started feeding Ben rice, even though she knew from the leaflet distributed at the hospital that rice should not be given until the baby was more than 2 months old. Sri's aunt-in-law said that Ben slept well at night because he ate rice well, otherwise he would cry and this would annoy their neighbours.

Reconciling conflicting time demands

Although most mothers were relieved from certain household activities by kinswomen and husbands during the first postpartum month, they gradually resumed full activities. Managing household chores and caring for infants requires mothers to reconcile conflicting time demands. Some activities in which the mothers engaged in order to reconcile conflicting time demands were unlikely to be beneficial to the health of infants.

Of major importance was the practice of breastfeeding mothers to introduce solid foods to infants early. Solid foods create a sense of fullness, thus making a baby sleep for longer periods. In addition, infants who were fed a large amount of solid food sucked less frequently than they had done previously, thus freeing a mother to do other jobs. Sri, for example, started feeding pounded sticky rice to her son when the boy was a

month old. She said that her son slept well after having rice, so she did not need to nurse him very often, and had time to wash clothes and helped her aunt work in the food shop. Another instance was Sang who gave birth during the harvesting time when her husband was so busy in the fields that he was not able to help her do housework. Even though she had her mother's help during the few weeks following childbirth, Sang started feeding rice to her daughter when the baby was only 5 days old. She said that her baby slept for many hours after having rice which allowed her to do other jobs such as washing while her mother kept an eye on the baby.

The major drawback of introducing solid foods is that it reduces the baby's demand for milk and therefore there is an associated reduction in protein intake. Bottle-feeding mothers also introduce solid foods to babies early so that they can cope with other demands on their time. Further, some mothers prop-up a bottle so that they do not need to hold the babies while feeding. In so doing the mothers are free to do other jobs. For instance, Kiew propped-up a bottle for Pim, and the girl usually fell asleep when she had nearly finished a bottle and so was exposed to the risk of inhaling milk. Then Kiew had time to catch up with household jobs such as pulling water from the well and doing some washing. Fortunately, Pim did not show any evidence of complications due to this practice. Another instance was Pui who also bottle-fed her son New by propping-up a bottle. Pui explained that New sucked slowly and it took a long time for him to finish a bottle. So if Pui did not prop-up a bottle she would not have time to do other things. New developed aspiration pneumonia soon afterwards, possibly as a consequence of this practice.

A bottle should never be propped-up because infants are apt to lose their hold on the nipple and be unable to get it in their mouth again. The greatest risk is that the flow of milk will be too rapid and that the infant might choke (Marlow, 1977). Because the women did not know about the danger of this practice, they often propped-up a bottle. Thus, the infants were vulnerable to complications such as aspiration pneumonia.

Minimising expenses

Most housewives in Ban Dee are responsible for controlling the family budget. The following examples illustrate the women's attempts to minimise family expenses. It was apparent that what the women did to minimise expenses often resulted in negative impacts on the health of infants.

As milk powder is very expensive, bottle-feeding mothers attempt to minimise costs in a number of ways. Kiew overdiluted the milk formula, so a small tin of milk powder

lasted for many days. When the first tin of milk powder was used up Pui used sweetened condensed milk instead because the latter was cheaper than milk powder. Further, mothers attempt to reduce the frequency of bottle-feeding by replacing a bottle with solid foods. Because the babies are given as much solid food as they can accept, they cannot consume much milk. Therefore, a tin of milk formula goes further. Kiew's daughter Pim was given rice when she was only 3 weeks old, and at 3 months of age the girl was fed a considerable amount of rice three times a day. Kiew said that Pim slept well after eating rice, therefore, Kiew did not need to bottle-feed her as frequently as she did before. So a small tin (450 gm) of milk powder usually lasted at least 10 days. Pui started feeding New pounded rice when the boy was only 2 weeks old but he did not accept it well. New became thin and developed respiratory infections. When the boy recovered from the sickness, Pui attempted to feed him rice again despite being told not to do so by the doctor. Pui's mother encouraged her saying that rice could fill up the baby, and then he would not take much milk. So if New accepted rice well, Pui could save some of the money used for buying milk powder. Unfortunately, New had a congenital heart disease and biliary obstruction which later required surgery at the age of 2 months. In the meantime he developed severe malnutrition associated with marked weight loss.

Minimising expenses vs. Promoting child growth

There is a contradiction between the need to minimise expenses and attempts to promote child growth. Despite attempts to save money, some mothers of infants who do not accept pounded sticky rice well feed their babies commercial supplementary food. Sri's son did well with pounded rice until he was about 5 months old, then he spat it out. Sri's husband bought his son commercially prepared rice cereal, Cerelac. A small tin of Cerelac costs 48 baht (NZ\$ 3), and Sri's husband earned 60-80 baht (NZ\$ 4-5) a day. Sri and her husband said that they wanted their baby to have rice because rice would make him grow well. In another instance Tamol's daughter, Phai, was constipated after having pounded rice, so Tamol's husband bought his daughter a tin of Cerelac. By the time Phai was 5 months old, the girl had finished five tins of it. Tamol said that even though the product was expensive her husband would buy it because both of them wanted Phai to have rice, otherwise the girl would not grow well.

Maintaining family income

Apart from household activities, most women actively help their husband maintain family income by working outside the home. The need to maintain income was likely to *push* mothers away from breastfeeding and *pull* them towards early bottle-feeding.

Breastfeeding mothers who work on their own land or as field labourers near the village usually resume work when infants are 5-6 months old. By that time the babies are introduced to pre-masticated food which consists primarily of rice, and are cared for by elderly kinswomen during the day. Once the food is accepted well, the baby sucks less frequently than previously. This frees breastfeeding mothers to go out to work without the worry that a child would be hungry at home. These mothers partially breastfeed when they are free from work. Saithong, Ulai, Umphan, Pen, Pin, Umpai, Nonglak were mothers who used this approach. Umphan and Pin stopped breastfeeding soon after the babies accepted solid foods well. They stated that the reason for weaning was that they had not enough sleep at night because their baby woke up often, which in turn affected their ability to work. Others, Pen and Saithong, introduced bottle-feeding while maintaining partial breastfeeding until the babies were nearly a year old.

Thai women, both rural and urban, have a very high rate of participation in the labour force and Thailand is often cited as a country with one of the highest rates of female work participation in the world (Van Esterik, 1989). Recent studies in Thailand have shown a decrease in the prevalence or duration of breastfeeding among urban women who work for wages outside the home (Knodel & Debavalya, 1980; Pongthai, Sakornrattanakul & Chaturachinda, 1981; Durongdej, 1982). Durongdej found that some infants of working mothers in Bangkok were fed and cared for by other people such as grandparents and older siblings, or by some families in the community which provide day-care services at a low daily cost.

The need to go out to work in order to maintain family income is the primary reason given by mothers for introducing bottle-feeding early. The majority of these mothers worked far away from home. Sompong went back to work as a fruit seller when her baby was about 2 months old, and her husband looked after the baby while she was out. She still breastfed whenever she stayed home until the baby was nearly a year old. Thim said that she wanted to resume work as a wholesale trader because she did not like staying home all day. So she introduced bottle-feeding to her daughter a few days after giving birth while partially breastfeeding. However, although she stopped breastfeeding 2 months later, Thim remained at home and looked after her daughter until the girl was 7 months old. She stated that she wanted to look after the baby by herself because the girl had not sucked and eaten well, and thus working would have made her too tired to care for the baby well.

Winikoff, Latham and Solimano (1983) investigated the impact of a wide range of biological, social, cultural, and economic factors on infant feeding practices in four

countries - Kenya, Columbia, Thailand, and Indonesia. They found that work outside the home was related to a short duration of breastfeeding and early introduction of bottle-feeding. There are other studies, however, conducted in Canada that have indicated that mothers attempt to combine breastfeeding and work (Morse & Bottorff, 1988; Morse, Bottorff & Boman, 1989)

A further observation was that the need to maintain income appeared to be related to the early introduction of solid food. The working ability of a husband is largely dependent on whether he has enough sleep at night. If the baby cries a lot, the husband is not able to sleep which in turn affects his working ability. So maintaining family income may depend on the success of the mother's attempts to make a baby sleep well at night. As solid foods create a sense of fullness and make a baby sleep well, a husband often encourages his wife to feed solid foods to the baby. Sri and Sang acted in this way. Sri's husband worked as a hired labourer. If the baby cried a lot at night he stated he could not sleep well and often felt sleepy while working during the day, so he told Sri to keep feeding rice to the baby. Sang gave birth to her daughter, Porn, during the harvesting time when her husband had to work hard in the fields all day. Sang continued to feed Porn rice even though she was told by the doctor to stop doing so until Porn recovered from diarrhoea. She said that she had to feed the baby rice, otherwise the father could not sleep well at night because Porn kept crying.

Uncritical acceptance of day-care services

The low-cost day-care centre is a private service that has recently been introduced into rural Thai society. Mothers and day-care centres have a symbiotic relationship. Day-care centres allow mothers to work outside the home without the worry of childminding, thus maintaining family income. The day-care centres provide employment for the owners and caregivers.

Babies at these centres often had infectious illnesses, diarrhoea in particular. Sick children were not cared for separately. The mothers did not blame the day-care services for the child's sickness. They just kept the sick child at home until he/she recovered. The owners of day-care centres often visited sick children at home and insisted that the mothers send the children back to the centre. These things work together and prompt mothers to accept day-care services uncritically. This situation was apparent with many mothers in the study. For example, Pin's son Keng had severe diarrhoea and an eye infection during the 2 months that he attended the day-care centre. During the periods of sickness the boy was looked after by either his mother

or grandmother and the family was often visited by Rieng, the owner of the day-care centre. So Pin continued to send Keng to the day-care centre as soon as he recovered from the sicknesses. Pin was told by the caregivers that Keng was fine and ate well at the day-care centre, but from the researcher's observation Keng was not as active as the other children of his age. At lunch time Keng, together with other infants who were not yet able to feed themselves, was fed by using the same spoon and dish because the caregivers had to catch up with the work, and communal feeding was quicker than individual. In this way, gastrointestinal and respiratory infections can be spread easily.

Children in day-care centres, particularly Ban Nang centre, were provided with low nutritional value foods, for instance, boiled rice with a small amount of meat or egg. As many children often had loose or watery stools after having dairy products, the parents told the owners of the centres not to serve cow's milk. In the afternoon the children were given only a snack or pudding which mostly consisted of carbohydrate. The children who lived some distance from the centres usually came in around 8-9 o'clock in the morning, and returned home at nearly 6 o'clock in the evening because they had to wait for transportation. By that time they were very hungry.

Advertising pressures and "word of mouth" information

Infant feeding practices in relation to bottle-feeding and supplementary foods are influenced by advertisements and "word of mouth" information. As in other developing countries, in Thailand during the past decades the trade names of infant formulae have become well known because of advertising and because samples of milk powder were given to mothers who delivered in the hospital. Nowadays breast milk substitutes are not allowed to be advertised on radio, television, or posters. Ironically, however, other milk products such as evaporated milk and sweetened condensed milk, commercial weaning foods like Cerelac, and various brands of bottles and nipples are widely advertised. Van Esterik (1989) states that the uses of infant formula, processed weaning foods, and feeding bottles reflects the adoption of many western foods in developing countries.

The data show that bottle-feeding mothers choose or change the brand of milk formula according to the advice of friends and the shopkeepers. Thim and her husband changed the brand of milk formula for their daughter as the husband was advised by one of his colleagues. Sompong and her husband often changed the brand of milk formula for their daughter because of advice given by their friends and the shopkeepers. These two couples stated that they would like to give their baby the best

milk formula. Conversely, poor bottle-feeding mothers attempted to minimise family expenses in choosing a formula. Kiew, for example, was advised by one of her neighbours to change the brand of milk formula for her daughter because the latter brand was cheaper than the former one.

As discussed earlier some mothers changed from pounded sticky rice to commercially prepared rice cereal despite low family income. This was because they were told by neighbours and friends that the product would make the baby grow well. Further, the product was advertised on television. Even though poor families did not own a television set, they often viewed with their neighbours. After feeding rice, most mothers usually gave the baby half a teaspoon or one teaspoon of a medicine advertised as preventing indigestion or abdominal distention, Gripe water. The medicine was available in the stores in the village, and was also advertised on radio and television.

PUSHES AND PULLS RELATED TO GOVERNMENT HEALTH SERVICES

A number of *pushes* and *pulls* in relation to government health services contribute to children being poorly nourished. To improve the nutrition and health of mothers and infants, these factors need to be considered in health policies and programmes.

Inadequate support & imposed hospital practices

Although giving birth at the hospital is seen as being beneficial to the mother and baby in terms of safety, hospital services are unlikely to be favourable to the establishment of breastfeeding. After giving birth, a mother and her baby are routinely separated. The mother is neither actively encouraged nor helped by health professionals in the breastfeeding processes nor is she educated about the advantages of colostrum. This was probably because health professionals, nurses in particular, had no confidence and experience in advising breastfeeding mothers. Although in nursing school they are taught to promote breastfeeding, bottle-feeding is widely practised in the hospitals so that nurses seldom have experiences of helping mothers overcome difficulties when breastfeeding. Thus, the mother is rarely able to establish breastfeeding and the baby rarely benefits from colostrum. The experiences of Sompong, Sri and Tamol illustrated this difficulty. After giving birth their babies were cared for in a newborn nursery, and were returned to them on the following day. Even though they were told by the nurses to put the baby to the breast, these mothers were not strongly

encouraged or advised when they were unable to initiate breastfeeding. Further, they were given a bottle to feed the baby. Sompong and Tamol said that their breasts felt full and their babies sucked well but the milk did not come in, and the nurses gave them a bottle to feed their babies. As these mothers had no experience of breastfeeding, they were worried that if breast milk still would not flow when returning home, the baby would be hungry. Some women then asked their husbands to buy milk formula and a bottle. They said that if breast milk had not come they would have bottle-fed their babies.

Several studies indicate that health professionals may give mothers mixed messages regarding infant feeding by verbally supporting breastfeeding but, at the same time, advising a bottle when minor difficulties arise (Ellis & Hewat, 1984; Reiff & Essock-Vitale, 1985). Ferris, McCabe, Allen and Pelto (1987) studied biological and sociological determinants of successful lactation among women in eastern Connecticut and reported that the hospital routine in which babies were bottle-fed in the first days postpartum affected the initiation of lactation. Tulley and Dewey (1985) concur with this opinion and state that provision of formula in the hospital may interfere with the establishment of lactation. It has been shown that the let-down reflex can be inhibited by embarrassment, uncertainty, fear or pain (Weinstein, 1980). Newton and Newton (1967) and Cole (1977) found that if a mother does not establish lactation in the first days postpartum or is unsure of her breastfeeding ability, she will often turn to the use of supplements, which reduce nipple stimulation and breast emptying, thus affecting milk supply.

Inconvenient hospital services

In an attempt to minimise expenses, poor women give birth at the district hospital where they pay less rather than giving birth at the big city hospitals. The district hospital, however, is not convenient to women who deliver there. Therefore, some women decided to deliver at home instead. Sang, for instance, was told that if she gave birth at the district hospital she had to have someone stay with her all the time because the doctors and nurses were too busy to provide her with company and assistance. Further, as meals for patients were not served in the hospital, they had to be brought in by relatives which was inconvenient as the hospital was situated some distance from the village. As Sang was due to give birth during the harvesting time, she prepared to give birth at home because at that time her husband would be too busy to accompany her to the hospital. Sang attended an ante-natal clinic at the subdistrict health centre only once, and her eating habits were greatly influenced by traditional beliefs rather than advice from health professionals. She avoided eating sweets, fatty

foods and flower of the banana tree due to the beliefs that such foods could cause difficult labour. After giving birth Sang ate only sticky rice and salt or fried pork skin for 1-2 weeks. She said that she would not have meat until the lochia [see Glossary, Appendix 1] flowed lightly because the elders said that meat has blood which could cause foul lochia.

Another example was Pui who said that after giving birth the doctors and nurses rarely visited her in the patient unit, so she had to have her mother stay with her during the day, and her husband had to stay with her during the night. Further, her husband had to bring in food and clothes for her and diapers for the baby. It was inconvenient because both her mother and husband had to stop working. Pui and her baby returned home early in the morning the following day. She did not receive any advice from health professionals because the latter were not available at the time she returned home.

Deferring to authority

The cultural pattern of deferring to authority discourages mothers from asking questions of health professionals, thereby reducing the opportunity for health education. As health professionals are viewed in authority roles, mothers tend to defer to them and not ask questions. For example, Sompong, Sri and Nong went to see a doctor at the big hospitals in town 3-4 times before giving birth. When asked whether they were given nutrition education these women said that the doctors were so busy that they were afraid to ask them questions.

Limited contact with health professionals

In addition to the cultural pattern of deferring to authority, health education tends to be minimal if there is limited contact between health professionals and the women. Women are not given sufficient time to discuss anything with health professionals regardless of whether they attend ante-natal clinics at the local health services or the hospitals in town. Most mothers said that they were not visited by the staff of the health centre with some complaining that they often met no one at the health centre. The staff of the health centre stated that they were so busy with other jobs that they did not have enough time to make regular home visits. In this way, mothers were neither encouraged to do things that were beneficial to their own health and the health of infants, nor educated not to do things that were harmful to them. The following examples illustrate that what mothers did without sufficient knowledge often had negative impacts on the nutrition and health of infants.

As mothers who delivered at home were not visited by community health workers, they were not educated about the advantages of colostrum. Thus, the baby did not benefit from colostrum because the mother did not put the baby to the breast immediately after birth. Sang gave birth at home and started breastfeeding 2 days after delivery. Even though her house was not far from the health centre, Sang and her baby had never been visited by the staff of the health centre. When asked whether she knew what the first milk was, Sang replied that she had never heard of it and knew nothing about it.

Like those delivering at home, mothers who delivered at the hospital were also not visited by community health workers when they returned home. Some of these mothers had a post-natal check-up either at the health centre or at the hospital. Others did not attend any post-natal clinics. Kiew returned from the hospital 2 weeks before her baby because the latter was underweight and was born prematurely. Like most postpartum women, she was not allowed to go out during the first postpartum month, and was not visited by community health workers either. Before Pim was discharged, Kiew tried to maintain breast milk flow by drinking water boiled with herbs according to the elders' advice. Also on the advice of the elders, she avoided foods seen as causing illness for herself. However, her economic situation did not allow her to have high-cost protein foods such as meat and eggs regularly. This meant that her own diet was inadequate to keep herself well nourished. When Pim returned home, Kiew attempted to initiate breastfeeding but did not succeed. Kiew's husband then bought his daughter a tin of milk formula. After each feed Kiew just gave the bottle and nipple a quick rinse. A week later, Pim did not suck well and developed thrush in her mouth, but Kiew said that it was because Pim was fed too much banana which was sweet. When asked if she knew how to clean a bottle and nipple properly, Kiew did not know that she needed to do so.

The third example was Pui's baby, New, who was poorly nourished and developed aspiration pneumonia when he was only a month old. After being treated in the District hospital, New recovered and returned home. Pui bottle-fed him with sweetened condensed milk and continued propping-up a bottle. A week later New appeared very weak and pale, and was taken to the University Hospital. The boy was diagnosed as having severe malnutrition and biliary obstruction. During this period Pui and her baby were not visited by community health workers.

Inappropriate and inadequate advice

Despite having some contact with health professionals, mothers are rarely given adequate and appropriate advice. Thus they are unable to manage their own food behaviours and infant care and feeding in a way that is optimally beneficial to their

own health and the health of infants. The following instances show that the advice given by health professionals was often inappropriate and inadequate.

Much of the advice was not practicable because of economic constraints. Poor mothers were unable to provide themselves and their children with high-cost protein foods regularly. Ulai and Kiew were advised by the staff of the health centre to eat meat and eggs during pregnancy, but they were not able to afford to buy these foods regularly. These two mothers appeared to be poorly nourished. Kiew's daughter weighed only 1340 gm when she was born. Ulai's last daughter, Wan, weighed 2.5 kg when she was born but the girl did not gain weight well even though Ulai had breastfed her for more than a year. When she was 15 months old, Wan weighed only 7 kg which is consistent with third degree malnutrition.

In some instances the advice of health professionals was incompatible with the physiological condition of women. As most Thai people do not usually eat dairy products after childhood, lactase deficiency is common. Women who were advised to drink cow's milk often found that they had loose or watery stools afterwards, thus they were reluctant to have such products. Sompong and Saithong followed the advice of the doctors by beginning to drink milk during the lactation period, but they had loose stools a day later, so they stopped drinking it.

Although cow's milk is a good source of protein, fat and calcium (Pyke, 1975), it has not formed a large part of the diet for Thai people. Alternative foods are the sources for these nutrients. Yet much nutritional education includes recommendations for an increase in dairy products. This has led to various problems when the women comply with the advice. What is needed is recognition of lactase intolerance in many Thai people so that nutritional advice can be appropriate.

Some mothers were not able to follow the advice of the health professionals because the advice did not fit with their daily life. Naree, for example, attempted to follow the advice in the leaflet distributed at the health centre by cooking ordinary rice with minced pork for her daughter. She did this only once because her family usually had sticky rice, so cooking ordinary rice was not convenient. Further, ordinary rice is not produced locally and is therefore more expensive than sticky rice.

The last instance which illustrates inadequate advice was Sang whose baby, Porn, had watery stools. Sang took Porn to the district hospital and received an antibiotic medicine [colistin] to treat it, but she was not told that the baby would not stop having watery stools immediately. As Porn still had watery stools for another day, Sang

bought Porn an antidiarrhoeal drug from the store in the village. Two days later, Sang had to give her baby an enema because Porn did not move her bowels due to an overdose of antidiarrhoeal drug.

Limited success of health policies and programmes

Health policies and programmes aimed at improving maternal and child nutrition implemented in the village have met with limited success due to various obstacles. Firstly, the budget for running health programmes was limited. For instance, the budget for a health clinic programme demonstrating how to cook supplementary food for children was only 40 baht (NZ\$ 2.80-2.90) a year. This amount was expected to cover eight villages in this subdistrict. As this was used up quickly near the beginning of the year, the staff of the health centre said that they were unable to continue the activity. With respect to locally available products such as mung bean and soya bean, women seldom cook with them and most do not know about their advantages. Some women, as was apparent with Kiew, did not even know how to cook them. She cooked mung beans without soaking them, so had to boil them for a very long time. Another example was Ulai's daughter, Wan, who was considered by the staff of the health centre as having severe malnutrition. Ulai received a limited amount of financial support, only 3 baht (NZ\$ 0.20) a day for 1 month, which was not enough to make the changes needed to correct severe malnutrition. Therefore, Wan did not gain weight and often had infectious illnesses.

An additional shortcoming was that the community health workers were not effective. The staff of the health centre rarely made home visits. With little contact they were not able to gain trust and cooperation from the villagers and community leaders. Further, the volunteer health workers, even though they lived close to the villagers, had no confidence to advise and help their fellow villagers. These workers were neither supervised effectively by community health nurses, nor were they encouraged to do their jobs by community leaders. Together these factors led to the health programmes being ineffective. For example, the nutrition surveillance programme was not carried out consistently in the village, and infants were not weighed regularly while attending the child health clinic at the subdistrict health centre. Volunteer health workers, who were responsible for weighing children, were neither encouraged nor educated to perform the activity regularly. Thus, the nutritional status of infants was not assessed comprehensively.

In the implementation of health programmes in the village the community leaders act as coordinators among the district officers, the community health workers, and the

villagers. As the village headman and his staff seldom visited the villagers, they were unlikely to understand the villagers' needs. The villagers deferred to these leaders and were afraid to ask for assistance. This made those health programmes which were attempted ineffective, and so in turn affected child health adversely. Ulai's family encountered this problem. Although the family held a subsidy card and was eligible for financial assistance when going to the hospital, Wan was not included because the girl was born after the card had been issued. Ulai's husband asked for help from the headman but he was told to wait until the following year. The parents had to pay for medicine whenever Wan was taken to the district hospital. One day Ulai paid 70 (NZ\$ 4.60-5.15) baht for medicine as Wan had pneumonia. The following day she did not take Wan to have an injection because she was no longer able to afford it, and just gave Wan oral medicine. It took several days for the girl to recover from pneumonia, and she appeared thinner than she was before.

A further observation was that activities which could have been beneficial to the villagers' wellbeing were not held in the village. These activities were neither encouraged by the community leaders nor the staff of the health centres. For instance, the government officers from the Department of Community Development rarely visited and advised the villagers because they were not encouraged by the headman to do so. The "housewives group", which performed activities such as demonstrating how to make soya bean milk, was not re-formed after the incident in which the headman's wife came under suspicion about financial running of the programme and some members were accused of stealing cooking equipment. The staff of the health centre did not take any action to re-form the group.

CONCLUSION

What each woman does with respect to her own nutrition during pregnancy and following childbirth and the feeding pattern that she adopts for her infant are the outcomes of interplay between a complex network of cultural, social, personal and situational factors. Certain patterns emerged from the study showing which configurations of antecedent and contextual conditions are most likely to be associated with particular kinds of outcomes. It was clear that the women did make links between food and health and that they wanted to do what would be best for their infants.

This study did not focus on a direct connection between the nutritional state of the woman and a baby's birth weight or the volume and quality of milk produced.

However, there is substantial evidence from other sources (Lechtig, Habicht & Delgado, 1975; Bash & Gold, 1981; Ritchey & Taper, 1983) that what a pregnant woman eats and does not eat is likely to affect her own health and that of her developing baby. It is also evident that undernourishment during pregnancy is associated with a greater risk of anaemia, toxemia, prematurity, still birth and neonatal death (Bash & Gold, 1981). Data from this study, showing that one pregnant woman who appeared thin and poorly nourished gave birth to a premature infant weighing only 1300 gm, support the above studies. While several studies indicate that even in cases of poorly nourished mothers, infants were successfully breastfed for a number of months (Jelliffe & Jelliffe, 1978; Rutishauser, 1987; Prentice & Prentice, 1988) these studies ignore many aspects of the complex relationships, such as the quality of milk and the women's health on a long term basis. Data from this study suggest a link between the mother's and baby's nourishment. One woman, who looked thin and poorly nourished, had breastfed her third daughter for more than a year, but the girl still developed severe malnutrition.

From the present study it appears that in profile **a woman who is most likely to keep herself well nourished** is one who does not rigidly accept food taboos, has some understanding of food values, and has the economic means to buy the foods she needs. She is likely too to have access to a variety of foods, and so be less prone to adhere strictly to food prohibitions. Also she feels safe in giving birth at the hospital which lessens the fear of delivery hazards believed to result from the consumption of prohibited foods. Along with these factors are prior experiences of having eaten prohibited foods without any consequential health problems and the experiences reported by other women who had no delivery complications despite the consumption of prohibited foods.

Conversely the profile of **a woman who is less likely to keep herself well nourished** is one who adheres strictly to food taboos throughout her childbearing period; has no understanding of food value; and has a low family income. Further, a woman is most likely to adhere strictly to food prohibitions if she has a strong belief that avoiding certain types of food would protect her own health and the health of the baby. Also she needs to maintain the support from kinswomen which is often contingent upon her following traditional advice concerning food. In addition, a woman may perceive herself as being old for pregnancy, so she strictly avoids the foods believed to be the cause of delivery complications. A woman may also be afraid that her husband will abandon her if she develops a certain sickness believed to be incurable, so she strictly avoids the foods believed to be the cause of the sickness. Along with these factors are a woman's prior experience of delivery complications

believed to result from eating prohibited foods and the reported experience that a close relative died of a certain sickness believed to result from eating prohibited foods during the postpartum period. Figure 9.1 illustrates that while some factors *pull* a woman towards not rigidly accepting food taboos, others *push* her away in the direction that forbids her eating a variety of foods.

One very clear finding with respect to infant feeding choices is that there is still a strong tradition in favour of breastfeeding, with most women at least initiating the practice. The variability observed relates to the time and extent that supplementary foods are introduced to the infants and the overall duration of breastfeeding. **A woman is most likely to initiate breastfeeding and successfully sustain it beyond 6-8 months if:** the birth occurred at home, the birth was uncomplicated, the supportive structure is strong, and she is well nourished herself. Also, a woman who views breastfeeding as convenient both for herself and the baby tends to continue the practice until the baby stops sucking by him/herself. An idea that a healthy infant is going to be ensured by breast milk and that in return the child, on attaining adulthood, would be able to look after aging parents can influence a woman to breastfeed for an extended period. Of particular importance are support and encouragement from a husband who views breastfeeding as convenient and advantageous economically, and encouragement from female neighbours who have also breastfed for a longer period. Along with these factors, a woman who has found or has been told that the milk is "good" because it appears white and 'khoon' (opaque) is inclined to breastfeed for a longer period. In some instances, a woman who has personally experienced a serious illness affecting a child subsequent to being weaned from breast milk before the age of 1 year, is more likely to sustain breastfeeding close to a year or longer.

The other side of the picture is that breastfeeding tends to be minimal when the birth occurs at the hospital, the birth is complicated, the support structure is not strong, and the mother is poorly nourished herself. In addition to these conditions, a woman is most likely to stop breastfeeding soon after giving birth if she views herself as too old to yield "good" milk. Also if a woman has found or has been told that her breast milk is not good because it appears clear and not white, she is inclined to wean the baby. Along with these factors is the need to resume work outside the home in order to maintain income which influences some women to introduce bottle-feeding to the infants and also stop breastfeeding soon after giving birth.

Between these two extremes of breastfeeding, a long duration being more than 6 months and a short duration being less than 6 weeks, was a range of outcomes. Key

factors in the decision making appeared to be: the woman's previous experience of breastfeeding or bottle-feeding; the information concerning milk powder from storekeepers and friends; the need to resume work outside the home when a baby is 5-6 months old, which prompts some mothers to wean the baby as soon as the latter accepts pre-masticated food well; and the attempt to maintain kinswomen support with childminding, which influences some mothers to follow kinswomen's advice by stopping breastfeeding when the baby is close to a year old. Figure 9.2 illustrates that while some factors and conditions support the mother's intention to breastfeed and motivation to sustain it, others interfere with the establishment and the long duration of breastfeeding.

It became evident from the data that most bottle-fed infants were unlikely to receive adequate milk, and were also vulnerable to a number of complications. This was because of a combination of the following forces and conditions. First, because a mother attempted to minimise family expenses, she bottle-fed with other kinds of milk products such as sweetened condensed milk, or overdiluted milk formula so that the milk would last longer. At the same time she fed the infant a large amount of solid food so that he/she would not consume as much milk. Second, if a mother had to catch up with household activities, she propped-up a bottle so that she was free to do other jobs because then she did not need to hold the baby while feeding. By this feeding technique the infant was exposed to the risk of not finishing the feed and thus obtaining insufficient nourishment, or choking and developing aspiration pneumonia. Third, often a mother had insufficient knowledge and resources to enable her to bottle-feed hygienically, so the infant was likely to develop gastrointestinal complications, diarrhoea in particular.

In addition to breastfeeding and/or bottle-feeding, it is a common practice to introduce solid foods early. The duration of exclusive breastfeeding is extremely short because most infants are introduced to solids, either pounded sticky rice or commercially prepared foods, before 2 months of age. The variability observed relates to the amount and number of feedings for which breastfeeding or bottle-feeding is replaced with solid foods. A woman is most likely to feed an infant with solids at an early age if she believes that the food, rice in particular, would make a baby sleep well and grow well. Due to this belief coupled with advertising influences a woman may feed her infant processed weaning foods despite a low family income. Also influencing the decision to introduce solids early is the attempt to maintain kinship support which predisposes the mother to follow the advice of kinswomen, although she has some information concerning solid foods from the leaflet distributed at the hospital. Along with these conditions are attempts to ensure that a baby sleeps well in order that the

mother can catch up with household chores, and to keep the infant quiet in order that the father can sleep well at night and so will be able to work during the day. Also there are pressures to avoid neighbours being annoyed by the infant's crying. Another factor contributing to the choice of early introduction of solids is the attempt of the bottle-feeding mother to reduce expenditure by replacing a bottle with solid foods so that a tin of milk powder can go further.

In fact, the practice of early introduction of solid foods may not be harmful as long as infants receive adequate milk and have no gastrointestinal complications. But an infant is most likely to fail to grow or become poorly nourished if he/she is fed solid foods at a very early age, and is not given a sufficient amount of breast milk or milk formula. Although the data have indicated that most infants gained good weight during the first 6 months, one bottle-fed baby, who was introduced to solids when he was 2 weeks old, lost weight and became malnourished soon afterwards. However, in that instance there was a further factor in that he was found to be suffering from congenital heart disease.

Another critical point that needs to be highlighted is that from 6 months onwards most infants gain very little weight, and often develop infectious illnesses which aggravate their poor nutrition. Only a few of them continue to grow or at least do not lose weight, as shown earlier in Figure 8.2 [see p 198]. An infant is most likely to continue to thrive beyond the age of 6 months if he/she is still breastfed by a well nourished mother, and is also fed with supplementary foods which are of high protein value. The thriving child is less likely to have been exposed to infections, particularly outside the home. Conversely, an infant is most likely to fail to thrive after the age of 6 months if he/she is totally weaned from breast milk and a bottle or has been breastfed but by a mother who is poorly nourished. He/she may also not be given sufficient protein. Another contributing factor is the infant being sent to a day-care centre where he/she is most likely to be exposed to the risk of infection, diarrhoea in particular.

Figure 9.3 demonstrates that all but one factor *pushes* mothers away from being able to give appropriate weaning foods, to keep infants cared for at home, and to protect infants from developing diarrhoea.

It was noticeable that very little positive influence comes through the formal health services. In fact, some practices, for example the hospital routine of separating a mother and her infant immediately after birth, or the practice of giving a bottle to a mother to feed her baby when she is not able to readily initiate breastfeeding, were found to work against the establishment and maintenance of breastfeeding. The

cultural pattern of deferring to authority prevents women from asking for help and advice. Women had limited contact with health workers both at the hospital and in the community setting. Health education was minimal and often the advice of health professionals was found to conflict with traditional beliefs and values, a woman's daily life and her economic situation. It was evident that health policies and programmes aimed at improving the health and wellbeing of women and children met with limited success partly due to a limited budget and the failure of community health workers, nurses in particular, in obtaining trust and cooperation from the villagers, village leaders, volunteer health workers and other community workers. Figure 9.4 represents these negative influences.

Since child malnutrition was a clinical phenomenon prompting this study, a goal for nursing interventions is to prevent child malnutrition as well as to promote the nutrition and health of children. As the data have suggested, a child is most likely to be well nourished if the mother is able to sustain breastfeeding beyond 6 months, and also if the mother is able to keep herself well nourished. A thriving child's mother tends to supplement an infant with weaning foods at an appropriate time. Another contributing factor is whether a mother is able to protect her infant from the risk of infection. The data also show that although a mother may want to do the best for herself and for the baby, she is influenced by a complex network of factors and conditions. Some of these factors tend to be positive, thus *pulling* her towards the eating habits and feeding choices that are beneficial to the health of herself and that of the infant. Others are likely to be negative, thus *pushing* her away from being able to keep herself and the infant well nourished. One factor, however, the attempt to avoid unpleasant experiences, acts as a *push* in the context of a woman's eating pattern. However, this factor *pulls* a mother towards an extended period of breastfeeding. Figure 9.5 summarises these multiple influences and the desired outcome.

It is argued that in order to be effective, interventions by nurses and other health workers aimed at preventing child malnutrition and promoting the nutrition of women and children, need to be carefully designed to take account of the complex network of social, cultural, personal and situational factors which influence the ongoing decision making of a woman in relation to her own nourishment and that of her infant. That is the strength of the present study. It has uncovered and recorded the details of these women's lives in a way that makes the information available as a basis for the development of culturally relevant and sensitive health educational programmes.

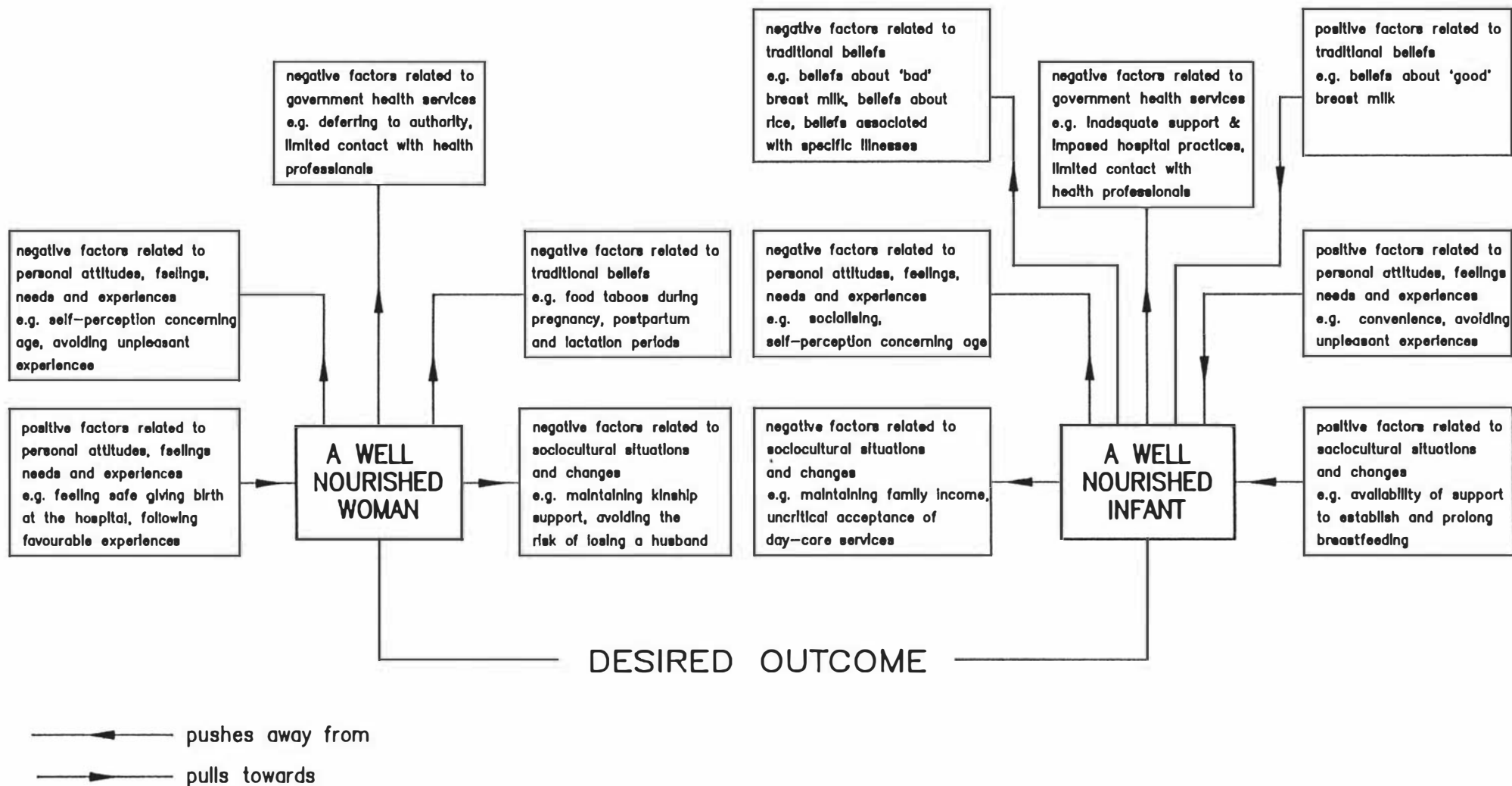


Figure 9.5 Factors affecting a well nourished woman and a well nourished infant

While western medicine has brought many advantages, one of the weaknesses in the way it has been introduced, and particularly in the way it has influenced nursing education, is that social and cultural variables have been almost entirely ignored. For instance, even though hospital delivery provides physical safety, the mother and her infant are far away from the crucial support and help of relatives which would help her to initiate breastfeeding successfully. Hospital personnel, nurses in particular, are not aware of the need to provide this support. A major insight from anthropological studies has been formulated by Brownlee (1978) in the form of a set of principles for community health workers. These principles and their application to the findings of this study will be discussed in the following and final chapter.

CHAPTER TEN

IMPLICATIONS AND RECOMMENDATIONS

This study was prompted by a specific observable phenomenon, namely malnutrition, which remains the major health problem among the Thai under-five-year-old population. This situation led to an ethnographic study being undertaken and that yielded a detailed description of what sustains beliefs and practices associated with infant nutrition in one village in rural northern Thailand. This description provided the basis for developing a conceptual account which will assist nurses and other health workers to plan culturally appropriate and sensitive interventions in order to improve the nutrition of mothers and infants.

In this final chapter, the implications for nursing practice and education which follow on from the previous chapter will be presented. The limitations of the study and suggestions for future research will also be discussed.

IMPLICATIONS FOR PRACTICE

In Thailand, numerous efforts have been made by health professionals to combat childhood malnutrition as well as to improve the nutrition and health of mothers and children. Two of the eight essential elements stated in the Primary Health Care programme (Office of the Primary Health Care, 1985) focus on the promotion of nutrition and health for mothers and children. The activities in relation to these essential elements include identification of malnourished children through a programme of weighing the under-fives, community education, supplementary feeding programmes to cover the severely malnourished children, and the generation of a "village nutrition fund". However, attempts to implement these recommendations have been less than fully effective. For instance, supplementary foods for pregnant women and preschool children have been developed using locally available products (Moaleekulpairoj, 1980; Tontisirin et al., 1981; Tontisirin et al., 1986) but they have not been widely consumed. This is possibly because health professionals rarely consider sociocultural factors underlying the problem. The aim of this study has been to describe the sociocultural context of an important health problem, malnutrition, as a contribution to developing sociocultural awareness among nurses and health workers so that their practice will be more appropriate and hence more effective.

This study showed women as being actively involved in an ongoing process of decision making amongst the various complex factors and conditions in their daily life, not as an isolated, unconnected individual, but as intimately connected to their immediate family, kin, neighbours and society. This suggests an altogether different approach to the problem of moderate malnutrition that could be taken by nurses and other health workers. It begins with the recognition of a woman as being engaged actively in ongoing decision making in an intimate social context, yet without the necessary resources or knowledge to make the best decisions. The specifics of the recommendations are how health workers, nurses in particular, could provide these resources to enhance women's decision making in a way that is beneficial to the nutrition and health of herself and her baby, without it having adverse effects or repercussions in other areas of their lives.

Some of the cultural, social, personal and situational factors and conditions which influence the decision making of women are compatible with adequate nutrition, others are neutral, and some interfere with it. Discussion on implications will be based on anthropological principles for community health. In brief, these principles are: to support those things in the traditional system that are beneficial to health; to attempt to minimise things which are harmful to health; and to leave the rest alone (Brownlee, 1978). In making suggestions the researcher has remained mindful that if innovations or changes are proposed in such a way that they fit in easily with the existing culture, they will be much more acceptable and therefore successful.

Even though some factors and conditions, for instance the economic situation and politics, are beyond the scope of nurses to change or modify, it is important that nurses acknowledge them and work within these constraints. The following recommendations are measures that nurses can take. They are concentrated on education, providing encouragement and support, organising existing resources, and providing information to those whose work concerns mothers and children to increase awareness so that good policies and programmes can be developed.

It is clear that the ongoing decisions which a woman makes are influenced by a number of people. If this decision making is to be enhanced, nurses and other health workers need to work not only with the woman herself, but also with her family and the whole community. It was apparent that health programmes being implemented in the village were not fully succeeding. This was partly due to the failure of health workers, community health nurses in particular, to obtain trust and cooperation from the villagers, community leaders and influential leaders, volunteer health workers, and other community workers.

Although nurses have been brought up in the same culture, they may not be aware of the effect of cultural aspects on gaining trust and cooperation. Also because those who have grown up in urban areas may have less opportunity to visit rural areas, they are unlikely to know what life in the villages is really like. These aspects have rarely been taken into account in modern schools of nursing in which western-type nursing curricula have been adopted. As nurses are viewed as having greater authority than the villagers, this interferes with the relationship. Nurses need to learn afresh about cultural patterns and traditional customs so that they will then be able to use them as a means of developing trust and cooperation with their clients. Also nurses need to be taught to be aware of the importance of influential persons and existing social groups in the community and how to work with these key persons in order to enhance the effectiveness of health programmes. The researcher proposes the following ways for nurses and other health workers to conduct a community-wide health educational programme. These recommendations could also be integrated into nursing curricula, particularly in the area of community health nursing.

Firstly, nurses and other health workers need to develop trust and rapport with the villagers. An indispensable tool for building trust and rapport is a regular home visit. Visiting makes the villagers feel cared for by health personnel, thereby fostering trust and good rapport. Along with home visits, the manners demonstrated by nurses and health workers are important. Because health personnel are viewed in authority roles, the villagers would tend to defer to them, which in turn results in the latter not asking for advice and assistance from health personnel. If nurses and health workers are told to be aware of this cultural pattern, and attempt not to make themselves superior to the villagers, the deferring attitude of the latter would then decrease. For instance, if nurses and health workers do not hesitate to sit on the dirty house floor or drink a glass of water offered by the villagers, the latter would feel comfortable and would relax. This would result in the villagers trusting health workers and being willing to cooperate.

The traditional custom of greeting and paying respect is another means of building trust and rapport with the villagers, particularly the elders. If nurses and health workers greet the elders by performing the 'wai' (the performance of putting the palms and fingers of both hands together and raising them to the chest level which is accompanied by a bow and smile) and talk to them as if the elders are their own elderly relatives, the elders would feel respected. For instance, female elders may be called "aunt" and male elders may be called "uncle".

Secondly, nurses and other health workers need to obtain active participation and cooperation from community leaders and to identify other influential persons. Community leaders, the headman and his staff, are responsible for carrying out government policies and programmes in the community, including health programmes. But these leaders do not actively participate in health programmes, partly because they are not motivated to see themselves as vitally important to the health of the villagers. If community leaders are kept informed of the situation regarding the nutrition and health of mothers and children, and through education and discussion come to see their own significance in enabling the villagers to have better health, they would be more likely to help and participate in activities concerning health. Further, if nurses and other health workers acknowledge these people in a village meeting, their prestige and status would rise. In this way, these leaders would then continue their participation.

Influential persons, such as the Buddhist monks, have the potential to enhance the success of health policies and programmes because they are highly respected and obeyed by the villagers. The monks contribute substantially to rural villagers, particularly in terms of mental and emotional support. This has been done unconditionally because offering or giving is one of the major principles in Buddhism. The present situation is that the monks are not encouraged to participate in health programmes, partly because health workers are not aware of this particular potential. If nurses and other health workers ask for assistance from the monks, the success of health programmes would rise. For instance, if the monks integrate health education while giving a talk to the villagers on the Buddhist holy days, the villagers would tend to obey them.

Third, nurses and other health workers need to enhance the effectiveness of volunteer health workers. In the village the volunteer health workers (VHVs and VHCs) [see pp 79-80] are responsible for conducting activities in relation to health such as weighing children, reporting the incidence of underweight children, visiting and giving advice to the mothers. If volunteer health workers are adequately trained and supervised, they would have more confidence to work with the villagers. In addition, if community health nurses encourage these health workers to visit the villagers, in particular the mothers and children, the villagers would feel that they are well cared for. This would then lead on to trust and rapport, thereby encouraging the villagers to cooperate with the volunteer workers. Most importantly, if community health nurses acknowledge these health workers in village meetings, this would bring them prestige, thus encouraging them to work effectively.

Fourth, health workers, community health nurses in particular, need to enhance collaborative activities and cooperation among other government officers in the community. There are government officers from different departments and ministries, for instance an agricultural extension officer and a community development officer who work in rural communities in order to improve the wellbeing of the people, but the collaboration and cooperation among these officers are limited. If these officers are kept informed of the nutritional situation of the villagers, and through planning and discussion come to see collaborative activities as ways for improving the health and wellbeing of the villagers, they would be more likely to participate in the activities.

Collaborative activity is conducted in a way that is beneficial to the villagers in a variety of ways, with little disruption of daily life. For instance, while a health worker educates the villagers on the advantages of locally available crops, an agricultural extension worker provides information about how to produce the crops effectively. Then a community development officer encourages the establishment of an agricultural-cooperative in the village in order to provide financial support for the poor farmers. In this way the collaborative activity would succeed because the villagers benefit both in terms of health and economics. Further, if community leaders are encouraged to support the collaboration programmes, the success of the programmes would increase and would be likely to be maintained. For example, if a village headman encourages the villagers to clear up irrigation canals regularly, an adequate water supply would be maintained, thereby enabling the villagers to grow crops more effectively.

In addition to collaborative activities, health education can be conducted via the existing social groups in the community, such as a "housewives group". A "housewives group" is established in order to enable the women to perform group activities that are beneficial to the wellbeing of their families, for example, a demonstration on how to use local products such as mung beans and soya beans effectively. A "housewives group" would be maintained if it was supported adequately in terms of encouragement, available resources and financial support. If nurses and health workers make themselves available as resource persons for the group and persuade community leaders to provide a budget for running the activities, or acquire sponsorship from the owners of local business, the continuation of the activities would be ensured. This in turn would be beneficial to the health and wellbeing of the villagers. However, such activities should be planned with the villagers in order to take into account the women's duties both in the household and outside. The timing for carrying out a special activity should aim for minimal disruption to these duties.

Then, if through education and motivation, both in the form of individual and group education, all villagers recognise that the nutrition and health of women and children are largely dependent on themselves, they would understand their own importance. This would then motivate them to cooperate with health workers in acquiring the best of what is available and affordable for women and children. Elderly women usually have a wealth of information and experience in caring for mothers and infants, and much of this is valuable and helpful. Elderly kinswomen could be encouraged to share information and experience with health personnel. Then, if through discussion and motivation elderly kinswomen recognise that the health and wellbeing of mothers and infants are largely dependent on them because mothers often follow their advice, they would understand that they themselves are crucially important. This in turn may lead to elderly kinswomen cooperating with health workers in giving advice to mothers as well as in providing support and care for mothers and infants.

As this research has shown, a child is most likely to be well nourished if the mother is able to: keep herself well nourished; initiate breastfeeding and sustain it beyond 6 months; provide her infant with supplementary foods which have high nutritional value at an appropriate time; and protect the infant from the risk of infection, diarrhoea in particular. These key points need to be included in a community-wide health education programme designed by nurses and other health workers. Specific recommendations for each key point identified will be discussed below.

Promoting good nourishment of women

It became evident that a woman who is not able to keep herself well nourished is one who takes food prohibitions seriously, without sufficient replacement by other kinds of foods which have the same nutritional value as prohibited foods, and who cannot afford to buy the foods she needs. It is argued that if a woman is to be able to keep herself well nourished, nutrition education must aim at enabling a woman to have high nutritional value foods without any contradictions with food beliefs, family relationships and the economic situation. A woman who avoids specific food, such as beef, sweets and fatty foods, could be advised to take other kinds of food which have the same nutritional values as the prohibited foods. For instance, if a woman who does not eat beef due to the fear of developing specific illness, is advised to have other kinds of protein-rich food such as pork, chicken and beans, the likelihood of protein deficiency would be reduced, as would the risk of losing the support of her kinswomen and husband. Similarly, if a postpartum woman who abstains from watery food until a baby's cord drops off, is encouraged to drink a large amount of boiled water, constipation would be less of a problem. This is consistent with the existing tradition of a postpartum woman being recommended by the elders to drink boiled water to keep the milk flowing.

Maintenance of breastfeeding

As the research proceeded it became apparent that although most women initiate breastfeeding following parturition, the duration of breastfeeding was dependent on the woman's beliefs about breast milk, her kinship and social support, her economic situation, her own attitudes and experience, and her work and responsibilities. If a woman is to be able to initiate and sustain breastfeeding beyond 6 months, health interventions must take these factors into account. The positive aspects of the present situation must be reinforced, and at the same time the factors or conditions that interfere with the practice need to be changed or modified.

First, if they visit pregnant women and mothers with newborn babies at home, nurses and other health workers would be able to identify whether such a supportive structure is present. By visiting, trust and rapport could be developed, which would then lead on to mothers, their kin and neighbours being willing to cooperate. Then, through education and motivation, kinswomen, husbands and neighbours would come to see their own significance as enabling mothers to breastfeed successfully, with the result that they would then continue providing support for breastfeeding mothers. Conversely, if community health nurses identify women who lack such support, they could provide substitute support by themselves or encourage the volunteer health workers to fill a supportive role. The women would feel supported and cared for. Then through motivation and education, these women would come to see breastfeeding as the best source of nutrition for infants and they would be more likely to breastfeed. This is consistent with several studies, for example, Saunders and Carroll (1988), who noted that when support was provided and the professional initiated the help, breastfeeding duration increased.

Nurses and other health workers need to be encouraged to see the advantages of home visits. Their failure to appreciate the importance of home visits reflects a lack of awareness of the importance of social and cultural factors in relation to health. It requires a reorganising of their work priorities so that they have time to make home visits.

Second, if nurses and health workers encourage and reassure the husbands who have a positive influence on the duration of breastfeeding by encouraging their wives to stay home in order to breastfeed for a longer period, and the nurses themselves admire the health of breastfed babies, a trend toward prolonged breastfeeding would be encouraged. As men are usually at work when nurses visit during the day, these activities would need to be integrated with collaborative programmes, as mentioned above.

Third, the practice of breastfeeding is more likely to be maintained if nurses and other health professionals keep encouraging the mothers who view breastfeeding as convenient and as a natural process, and further inform them about the advantages of breast milk. Further, if mothers who breastfeed successfully for a long period, are encouraged to recount their positive breastfeeding experiences to their relatives, friends and neighbours, breastfeeding would then be prolonged because mothers often follow "word of mouth" information and the experiences reported by other women.

Fourth, if a woman who needs to work outside the home and tends to stop breastfeeding is given information on flexible ways to combine breastfeeding and work, she would then be able to sustain breastfeeding. Morse, Bottorff and Boman (1989) describe four patterns of mixed feeding. These are flexible breastfeeding, partial breastfeeding, routine use of bottles of formula and minimal breastfeeding. These patterns of feeding combine breastfeeding in ways to accommodate the woman's other duties. If mothers who work in the fields and have no regular days off are advised to use the flexible breastfeeding pattern, they would be better able to breastfeed for a longer duration. With this pattern, the infant is nursed on demand whenever possible, for instance, on days spent at home, with or without the addition of solid foods. But on days when the mother is at work partial breastfeeding would be resumed. The flexible breastfeeding option is compatible with the existing pattern of infant feeding as observed in this study, in that infants are usually introduced to solid foods early, and at night sleep with their mothers and feed on demand. However, it is noted that solid food should not be given near the time of the mother's return from work so that the infant is sufficiently hungry to empty the mother's engorged breasts.

Working in markets or a factory far away from home may result in the mother leaving home early in the morning and not returning until late evening. In this way the period of separation of mother and infant is unduly prolonged. For many of these mothers, the flexible breastfeeding pattern would not be workable, particularly if a mother is worried that a baby would not have sufficient milk. They should be advised to partially breastfeed, but to introduce regular bottles [1-2 bottles] of formula during the day. It is important that the advantages of breastfeeding are reinforced to these mothers. They also need to be told how they can successfully combine both breast and bottle-feeding. This would encourage them to breastfeed for a longer period of time.

Fifth, a mother who perceives that she is too old to produce "good" breast milk for the baby needs to be convinced that every woman who has conceived a baby is able to produce enough milk for the baby regardless of her age. This activity would need to

be integrated with culturally appropriate nutritional education and ante-natal care. A woman could be advised to eat high nutritional value foods which were not against her food beliefs and economic constraints. Also if a woman is helped and advised by health workers to overcome anatomical disorders such as flat or inverted nipples while attending an ante-natal clinic, she would be able to initiate breastfeeding. Further, if she is encouraged to discuss her situation with relatives and neighbours who have had positive breastfeeding experiences in spite of being older, a woman would then have more confidence to breastfeed.

Sixth, because of the link that is made between body heat and breast milk quality, a mother is often told by kinswomen not to nurse the baby immediately after returning from work and so she attempts to wean the baby. If the mother is advised to have a cold drink before nursing, this may change her perception and that of her kinswomen. This is compatible with the belief that whatever a mother eats or drinks is transferred to a baby through breast milk. This would then result in a longer duration of breastfeeding without being in contradiction with the traditional beliefs, and support from kinswomen would be maintained.

Seventh, if a woman who delays breastfeeding until 2-3 days after giving birth is educated about the advantages of colostrum, this may encourage her to put the baby to the breasts sooner and the baby would benefit from the colostrum. However, a woman should not be forced to feed her baby colostrum if she is anxious or distressed about it as it may inhibit the let down reflex and interfere with the establishment of breastfeeding (Morse, Jehle & Gamble, 1990).

Although the study was not conducted in a hospital setting, the data led the researcher to look critically at what has happened in the hospitals. Hospital delivery appeared to have a negative effect on breastfeeding. Hospital routines were reported in which the baby was separated from the mother immediately after birth and was bottle-fed for the first day postpartum. Such practices adversely affect the initiation of lactation.

Since the present study did not focus on the hospital services, there is not sufficient data from the research on which to base specific recommendations for changes in hospital policies or practices. However, it is most likely that if nurses act as coordinators, then through discussion and motivation, other health professionals and hospital administrators would mutually agree to promote breastfeeding. From this, a programme of education would need to be developed to improve nursing practices in a way that support breastfeeding.

Such measures are consistent with the WHO and UNICEF goals to promote breastfeeding through the creation of "baby friendly" hospitals (WHO, 1991a). This programme aims at promoting the adoption of the "Ten Steps to Successful Breastfeeding" by hospitals and maternity services [see Appendix 2]. Twelve developing countries including Thailand have been selected to become increasingly involved in the first 6 months (June-December 1991) of the 18 month programme (Naylor, 1991).

Appropriate supplementary foods

The practices relating to supplementary foods both during the early and late infancy period are influenced by beliefs about weaning foods, family and social relationships, the economic situation, and women's work and responsibilities. If an infant is to be provided with supplementary foods which have high nutritional value at an appropriate time, nutrition education needs to take these factors into account. For instance, if a baby who is introduced to solid foods at a very early age, is also supplemented with locally available products such as mung bean and soya bean, protein-deficiency is likely to be reduced. Because such products are also solid substances, it is hoped that they may be acceptable as an addition to rice as a solid substance which can be retained in the body and make the baby grow well. Mung bean or soya bean would provide better quality nutrition for the baby while at the same time creating fullness and making him/her sleep well. Thus, a mother would have time to do other jobs, a father could sleep well at night, and neighbours would be less frequently annoyed by an infant's crying.

Prevention of diarrhoea and its complications

Although diarrhoea in infants was viewed as a normal process, it was evident that parents sought treatment for the baby when he/she refused to suck or eat, or became weak. If an infant is to be prevented from developing diarrhoea and its complications, health education must be aimed at motivating the mother or the caregiver to understand the effects of diarrhoea on the growth of the infant, and helping them to provide hygienic care for the infant. Caregivers in day-care centres could be advised to feed infants by using a separate bowl and spoon for each child, and at the same time, the owners of day-care centres should be provided with sponsorship for doing so. A mother or whoever feeds the baby at home should be advised that if she has a cold or diarrhoea then infection can be transmitted to the baby by feeding premasticated foods. When the mother or caregiver is not well he/she should refrain from this feeding practice. Such advice should be acceptable as it is consistent with the belief that what a mother eats is transferred to her baby.

Attention to hygiene in relation to artificial feeding is of particular importance in the prevention of diarrhoea. Through community-wide health education programmes and home visits, if a mother or whoever is responsible for bottle-feeding is taught how to prepare a baby's bottle hygienically within the available resources, the incidence of diarrhoea would decrease. For instance, some mothers do not boil or steam the bottle and nipple due to the need to save fuel and water. If these mothers are advised to boil or steam the baby's bottle and nipple while steaming sticky rice in the morning, they would not waste more fuel and water. However, this health education needs to be carefully planned in such a way that the women would not mistakenly believe that bottle-feeding is better than breastfeeding.

Improvement of day-care services

Most infants approaching the age of 1 year attend day-care centres available in the community. This is because the mothers need to work outside the home and do not have older relatives who can provide child care, or the infants are so active that some elderly grandmothers are no longer able to look after them. But it was noticeable that the services provided by day-care centres often had negative impact on the nutrition and health of infants. The researcher suggests that if day-care services are to be improved, nurses and health workers need to work with the owners and caregivers of day-care centres as well as with community leaders in the following ways. First, if a programme of health education was established in the community, this would provide the owners and the caregivers with an opportunity to learn about the importance of hygienic care as well as the harmful effects of unhygienic care. Information on child growth and development could be used to address observed behaviours such as infrequent feeding of infants and also the time they need to eat. This in turn would encourage the owner and caregivers to provide better care and food for young children. Second, if centres which provide high standards of hygienic care such as using clean utensils and nutritious foods for children, are given rewards or certificates, and are acknowledged in a village or subdistrict meeting, this would then encourage the owner to continue such good services and motivate the owners to maintain them. This in turn would reinforce the value and advantages of acceptable standards in the village community.

Third, if children who attend day-care centres are weighed regularly, growth failure and malnutrition would be quickly detected. If the owners and the caregivers are encouraged and helped to weigh children, they would do so regularly. Then, if a back-up service for day-care centres is provided at the local health centres, the owners could refer children who have lost weight or who are sick to a health professional.

Further, if the centre which reports weight measurements regularly is given rewards such as certificates or a budget for running the service, this would then reinforce the continuation of weighing children.

Fourth, if the local health services, the subdistrict health centre or the district hospital, offered health services such as physical examinations for children who attend the centre regularly, this would raise the status of the centre in the eyes of the child care centre owners, and also of the parents. This in turn would motivate them to provide good care for children.

Fifth, if nurses persuade community leaders and the owners of local businesses to contribute to activities concerning upgrading day-care centres, for instance, providing sponsorship for the lunch programme, the children would benefit from these activities and the sponsors would enjoy prestige. Further, if these activities are announced in a village meeting, thus publicising their contribution and adding to prestige, they would be likely to continue their contribution.

Implications for practice have been discussed in accordance with the conceptual account and the findings of the study. It is argued that if a woman is provided with necessary resources and sufficient knowledge, she will be able to make decisions in a way that is beneficial to the nutrition and health of herself and her baby. Recommendations began with how nurses and other health workers could design and conduct a culturally appropriate and community-wide health education programme. This has been followed by specific recommendations for key points identified as vitally important in ensuring that infants are well nourished, thus preventing infant malnutrition and promoting child growth.

IMPLICATIONS FOR NURSING EDUCATION

As a profession, nursing must develop a distinctive body of knowledge that guides the ways in which nursing service is provided (Phillips, 1986). As an academic and practice discipline, nursing is directed towards practical aims and thus generates prescriptive as well as descriptive theories (Donaldson & Crowley, 1978). This study focuses on a clinical phenomenon of importance to the recipients of nursing care, ensuring that infants are well nourished. The findings of this study provide the basis for developing a conceptual account to guide nursing intervention in the aspects of health promotion and disease prevention. Such contributions work toward enhancing

the professional status of nursing and the broad development of nursing's knowledge base, both nationally and internationally.

The findings of this study indicate that what a woman does in relation to her own nutrition and that of her baby are the outcomes of interplay between a complex network of sociocultural, personal and situational factors and conditions. It is argued that if the nutrition and health of women and infants are to be improved, interventions by nurses and other health workers need to take into consideration all of these factors and conditions.

In Thailand, nursing is defined as an activity of assisting and taking care of a patient or a client in order to relieve the signs and symptoms of illnesses as well as to promote health and prevent diseases (Nursing Council of Thailand, 1985). At the present time nurses in Thailand are not yet encouraged to consider sociocultural factors in relation to health. Overall nurses are taught to plan interventions in relation to the patho-physio-psychological needs of the clients. Minimal attention is given to cultural and social factors. This is probably because nursing curricula are based on a medical model which concentrates on disease rather than the person in his/her sociocultural context. Often nurses impose their will on clients without recognising the viewpoints of the latter. This may lead to the failure of nursing interventions, and of health education in particular.

Clearly nurses are an underutilised resource with respect to the nutritional aspects of maternal and child health in rural northern Thailand. To enable their full utilisation would require major changes to the organisation of health services particularly at village level and to the training of health professionals. Since the present study was not focused on the health service there is relatively little data from the research on which to base specific recommendations for changes in the way health care is organised and delivered. That has to be the focus for future research. In addition educational changes are also needed, including modification of nursing curricula, so that nurses come to have an increased awareness of the many different factors which shape people's behaviours. They would then have a basis for more effective intervention rather than simply being left with the disappointment of finding that women do not always respond positively to what seems (to the health workers coming from a basis of westernised medicine) a very sensible health education programme.

Internationally, nursing is viewed as the primary profession to bring about health changes. In a statement to the Executive Board of WHO, Mahler stated:

WHO will certainly support nurses in their efforts to become agents of change in the move towards Health for All. In order to realise the full potential of this powerhouse, nurses will need to be organised and equipped to break down resistance to change, to sustain the initial effort, and then to develop strategies and action plans.....(Mahler, 1985: 1)

To bring about health changes, there is a need for nurses to become fully knowledgeable about human behaviour from the cultural viewpoint and to deal with behaviour that is culturally conditioned (Leininger, 1967). That is, the client's point of view towards health problems needs to be explored, and then nurses need to plan with, rather than for, the client in order to help them to modify their health related behaviour. In this way nurses could then design interventions appropriate to those culturally specific responses which would not conflict with any of the world views of the individuals for whom they provide care.

Nurses can play an important part in the empowerment of these rural women. The *pulls* towards doing those things associated with better nourished infants, such as the strong supportive structure of extended family, can be supported and strengthened. For instance, support and help provided by kinswomen and husbands during the weeks following childbirth could be acknowledged and encouraged by nurses. The women would then feel supported and cared for, and also could spend time on child care and feeding, both of which encourage breastfeeding. At the same time efforts can be made to reduce the influence of negative factors, such as hospital routines, that interfere with the establishment of breastfeeding, and which *push* the women into activities which clearly have direct adverse affects on the nutrition of infants.

With preventable health problems, such as malnutrition and diarrhoea, causing the deaths of more than a quarter of a million young children a week in developing countries (UNICEF, 1989), nurses are challenged to increase their efforts to reduce the problems. Breastfeeding is considered so critical to the health and survival of children that UNICEF included it as one of the four key health measures of the "Child Survival Revolution" (Werner, 1989). Overall it is estimated that if more women were to breastfeed optimally (i.e, exclusively through the first 4-6 months and with appropriate weaning foods through at least the first year) an additional two million infant lives could be saved each year (Naylor, 1991). One of the major important strategies for preventing the occurrence of pneumonia and diarrhoea, the first and second killer of children, is to improve the nutrition of children, particularly through

breastfeeding exclusively up to the age of 4-6 months, and well into the second year of life (WHO, 1991b). Also Feachem and Koblinsky (1984) state that a typical breastfeeding promotion programme may reduce diarrhoea mortality by 24-27 % among infants aged 0-5 months and by 8-9 % among children under 5 years of age.

Women have been viewed as primary health caregivers both within the family and within the community (Kirkpatrick, 1990). To promote child growth and prevent childhood malnutrition, nurses must play a definitive role in providing both culturally appropriate health care and the education needed and desired by the women. For instance, if breastfeeding is to be maintained, women need to be given culturally appropriate advice and support. This is consistent with Barnard's Child Health Assessment Interaction Theory (Barnard, 1989). Barnard's theory is based on ten theoretical assertions, and one assertion is that a major issue for the nursing profession is support of the child's caregiver during the first year of life.

LIMITATIONS OF THE STUDY

Ethnographic methodology facilitates the investigation of the context in which people's health beliefs and practices evolve as well as serving to identify cultural components of health and illness (Robertson & Boyle, 1984). In the present study, ethnographic methodology allowed the researcher to obtain a detailed description of beliefs and practices pertaining to infant nutrition in rural northern Thailand. Even though the findings from an ethnographic study are not usually generalised from one culture or subculture to another, a case may be made for some degree of generalisation to other similar cultures (Germain, 1986). Omery (1988) notes that for ethnography, generalisability or external validity is limited to all those sharing the same culture or participating in the same kinds of activities. The pioneering nature of the present study, its scope, and time constraints limit the generalisability. Only one village in rural northern Thailand was used as the site for fieldwork, and data were collected within 10 months. There is clearly a need to research the nutrition and health of mothers and infants in a variety of settings in Thailand, and with a larger and more diverse population. As Phillips (1986) notes, research focused on a single phenomenon over many investigations using similar and different samples is particularly important for increasing the generalisability of inductive research.

Although the researcher planned to choose the informants regardless of their economic situation, none of the informants had a high income. This was because there were only a few high-income families in the villages, and none of the women in these

families gave birth or had young babies during the period of the researcher's fieldwork. In fact, high income families may have a potential to do things which are beneficial to the health of infants in some aspects. For instance, mothers whose family has a high income may send their children to day-care centres in town, where the children would be provided with better food and better care than those who attend the available centres in the community. Therefore, any conclusions and generalisations that are reached may be applicable only to this particular population and sample.

The researcher's plan with respect to one of the research questions was modified. The question "How were nurses seen as maintaining or improving the nutrition of infants?" was not fully addressed because the villagers were not able to distinguish the different roles of health professionals. The question assumed the visible presence of nurses in the community. What was uncovered was the absence of any clear nursing presence. As most health professionals are expected to provide treatment, everyone whose work was involved with health and illness, either in the hospitals or the community, is called 'mho' which means a doctor. Further, at the subdistrict and village levels, there are other health professionals, such as midwives and sanitation officers, who work alongside nurses and perform similar work. The inability to distinguish these different roles is partly due to the villagers having very little contact with nurses. Therefore, the researcher decided not to force the informants to specify the type of health professionals they had contact with. In this way, the informants' perceptions regarding nurses were included with those of other health professionals.

Inevitably the researcher established a close relationship with the informants and with the data set. However, Phillips (1986) notes that "so long as the researcher is careful to acknowledge personal biases and indicate the limitations imposed by the data set, the scientific quality of the data interpretation is enhanced and not compromised by this intimacy" (p. 325). The researcher was aware of this intimacy and attempted not to compromise the data set in terms of personal biases. Data were also confirmed by five key informants, and were validated by general informants. Furthermore, informants were interviewed and observed in a variety of settings; home, village markets and paddy fields, to make comparisons of similarities and differences before meaning was attributed.

However, even given the above limitations, the findings and the conceptual description developed from this study offer substantial contribution to the better understanding of the beliefs and practices regarding the nutrition of mothers and children. This leads to far-reaching implications both in terms of practice and education as already discussed.

POSSIBILITIES FOR FUTURE RESEARCH

As Krampitz and Pavlovich (1981) note, even though research is designed to answer research questions, it is often found that more questions than answers are generated by the findings of the study. That is true for the findings from this study. Questions to be addressed are: Do the behaviours of mothers identified as the outcomes of interplay between a complex network of personal, social, cultural and situational factors apply in other types of settings, for example, urban and suburban settings of northern Thailand or other parts of the country? Do the outcomes of interplay between a complex network of personal, social, cultural and situational factors differ in situations other than those described here? If so, which ones, and in what way does this affect the nourishment of mothers and infants? Which nursing interventions aimed at the promotion of nutrition and health of mothers and infants are likely to be the most effective, and under what conditions?

This study has shown that the establishment of breastfeeding in the hospitals is minimal. Research into ways that hospital services affect breastfeeding is urgently needed as a basis for change. This would be compatible with the policy of "baby friendly" hospitals mentioned earlier. The research by Morse, Bottorff and Boman (1989) on ways of combining breastfeeding and work was undertaken in a different context from the present one. Research in a Thai rural setting would identify patterns of a flexible approach that could be most appropriate locally.

Generally the findings speak for the importance of nurses being encouraged to use research findings as a basis for practice, to be introduced to a broad range of research methods, and to be prepared to undertake research in nursing.

CONCLUDING STATEMENT

In this study an ethnographic approach has been used to generate a conceptual description and partial explanation of what maintains beliefs and practices regarding infant nutrition in rural northern Thailand. What sustains the patterns which characterise the food intake of pregnant women and those with young children, and how they feed their infants, was found to be a complex network of personal, social, cultural and situational factors. These act as *pushes* and *pulls* on the women in their day to day decision making. Any attempt to change behaviours at one point has to be considered in relation to the overall pattern. Nursing implications follow as a result of the interpretations made in the study. Recommendations have been made to guide

nursing practice and education in order to prevent infant malnutrition as well as to promote better nourishment of infants and their mothers. The findings of the study apply to nurses working in a hospital setting as well as those who work in the community, and could be useful to other health professionals whose work concerns mothers and children, and so counter one of the major health problems in rural Thailand.

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APPENDIX 1**GLOSSARY OF TECHNICAL TERMS**

Ampicillin:	A broad spectrum antibiotic effective against gram-negative bacteria.
Anaemia:	A condition of the blood in which there is a reduction below normal levels in red blood cells (erythrocytes) and haemoglobin, thus reducing the oxygen carrying capacity of the blood.
Analgesic drugs:	Drugs which relieve pain.
Angular Stomatitis:	Inflammation of oral mucosa caused by riboflavin (one of vitamin B group) deficiency. The mucosa is very red and tender and ulcerative areas may develop.
Ante-natal:	A term applied to conditions occurring before birth.
Antibiotics:	Drugs derived from certain organisms (eg. penicillin) used to treat infections caused by other organisms.
Antidiarrhoeal drugs:	Agents that counteract diarrhoea.
Antihelmintics:	Drugs used to destroy and eliminate intestinal worms.
Antihistamines:	Drugs which antagonise the action of histamine and are therefore of value in the treatment of certain allergic conditions.
Antipyretic drugs:	Drugs used to reduce fever.
Appendicitis:	Inflammation of the appendix, small blind-end tube attached to the proximal end of the caecum (the large bowel). Treatment requires surgical removal of the appendix.

Arteriosclerosis:	A chronic degenerative process characterised by the gradual development of atheroma (fatty plaques) in the lining of the arteries and subsequent narrowing of the lumen, thus compromising blood supply to affected areas. It may affect cerebral, coronary and other vessels.
Aspiration pneumonia:	Inflammation of the lung tissue most commonly caused by accidental aspiration of liquids or solid food.
Aspirin (acetylsalicylic acid):	An analgesic drug with antipyretic and anti-inflammatory action. Side effects include nausea and epigastric burning, with high risk of gastrointestinal haemorrhage in patients with bleeding disorders, history of peptic ulcers, those at risk of developing stress ulcers, and the elderly.
Asthma:	An episodic obstructive pulmonary disorder in which there is narrowing of bronchial lumen. This narrowing is due to spasm of the bronchial muscle tissue, oedema and swelling of the mucous membranes, and the secretion of viscid mucus that tends to plug some branches of the bronchial tree.
Beri-beri:	A disease due to vitamin B1 (thiamine) deficiency, characterised by polyneuropathy, cardiovascular and cerebral manifestations and oedema.
Biliary obstruction:	Obstruction of the biliary ducts, within or outside the liver, with subsequent build up of bile constituents. Symptoms include yellow skin, dark urine, and white or clay-coloured stools.

Chickenpox (varicella):	A communicable disease characterised by general malaise, fever, anorexia, headache, and characteristic rash which progresses to vesicles before eventual formation of crusts and desquamation.
Colistin sulfate (polymyxin):	An antibiotic drug derived from <i>Bacillus polymyza</i> var. <i>colistinus</i> used in treatment of diarrhoea in infants and children. Side effects are infrequent within recommended dosage range but may include nausea, vomiting, hypersensitivity reactions and opportunistic infections.
Diabetes Mellitus:	A chronic disorder of carbohydrate metabolism due to absence or insufficient secretion of insulin from the pancreas. Treatment includes dietary restrictions, oral medication to potentiate action of available insulin, and/or replacement of insulin through regular injections.
Diarrhoea:	Accelerated movement of contents through the intestine, resulting in frequent liquid or unformed stools. The faeces pass through the colon before the normal amount of water and nutrients are absorbed, thus leading to possible dehydration, electrolyte imbalance, and inadequate absorption of protein, minerals, vitamins and other nutrients.
Ferrous sulfate:	An iron preparation used to correct simple iron deficiency and to treat iron-deficiency anaemia. Also may be used prophylactically during periods of increased iron needs, as in infancy, childhood and pregnancy. Side effects are generally minimal but may include nausea, heartburn, anorexia, constipation, diarrhoea, epigastric pain, abdominal distress, headache, yellow-brown discolouration of eyes and teeth.

Health card:	A form of health insurance encouraged by the Ministry of Public Health to help poor families. Families issued with this card are entitled to free treatment at health centres and hospitals run by the Ministry of Public Health. The cost of the card to the family is 200 baht per year, however, there must be at least 35% of the households involved in the programme in each village for individual families to be able to obtain health cards. The aim of the government policy is to replace current "subsidy cards" (see later in the glossary) with the health card.
"Injection doctor" (Thai term):	A person without professional training who gives injections and intravenous infusions illegally and often inappropriately. It may be equivalent to the use of the term "quack" in colloquial English. Medicines injected are usually antibiotics and antipyretics sold in drug stores without a physician's prescription. Glucose and intravenous fluids sold in disposable containers may also be injected. Often equipment such as syringes and needles are not sterilised.
Iron deficiency anaemia:	Anaemia due to deficiency of iron and characterised by small red blood cells with less than the normal content of haemoglobin.
Iodine deficiency goitre:	The enlargement of the thyroid gland in the neck, due to increased pituitary release of thyrotropin in response to the low iodine concentration in the blood.
Lochia:	The normal discharge from the cavity of the uterus which takes place for the first week or two after childbirth or abortion.

Measles (rubeola):	An acute, infectious, viral disease characterised by inflammation of nasal passages, conjunctivitis, photophobia, appearances of Koplik's spots in the mouth, hacking cough, high fever, rash and enlarged lymph nodes.
Paracetamol:	A mild oral analgesic which also reduces fever, but (unlike aspirin) has minimal anti-inflammatory effect. Used in treatment of headache and common musculoskeletal pains. Side effects are uncommon with therapeutic doses, but potentially fatal liver damage follows serious overdosage.
Peptic ulcer:	Erosion of a circumscribed area of tissue in the wall of the stomach or the duodenum resulting from the digestive action of hydrochloric acid and pepsin.
Postpartum:	Following childbirth.
Prednisolone:	A synthetic corticosteroid drug used in management of inflammatory conditions such as bursitis, diseases of joints and nonarticular structures, and dermatological, nasal, ophthalmologic, and otic disorders.
Subsidy card:	A form of aid from the Ministry of Public Health in cooperation with the Ministry of the Interior to help the poor. Those owning the subsidy card are eligible for financial assistance when in need of care in hospitals run by the Ministry of Public Health. The headman and his staff have the authority to select eligible families.
Technical nurse:	A nurse trained in a 2-year community college programme. The technical-nurse programmes were developed as the policy of the Ministry of

Public Health to counter a shortage of nursing manpower in rural communities. A technical nurse is allowed to study further for the bachelor degree in nursing when he/she has worked for at least 2 years.

Thrush

(moniliasis or candidiasis):

Superficial fungal infection most often involving the oral cavity. It may develop as opportunistic infection following the destruction of normal flora by antibiotic therapy, from contamination by an infected person (eg. babies being fed prechewed rice), or contact with infected objects (eg. feeding several children with the same utensil).

Tuberculosis:

A communicable disease caused by *Mycobacterium tuberculosis* most often affecting the lungs (pulmonary tuberculosis). In acute tuberculosis manifestations of the disease include malaise, fatigue, anorexia, weight loss and irritability. The disease may become chronic, with cough and expectoration, fever, hemoptysis, weight loss, and night sweats.

Ventricular Septal Defect (VSD):

A hole in the septum between the left and right ventricles of the heart. It is the most common congenital cardiac anomaly. Treatment involves surgical repair and closure of the defect.

Vitamin B Complex:

A group of water soluble vitamins obtainable from sources such as yeast and liver. This group of vitamins includes calcium pantothenate (Vitamin B5), cyanocobalamine (Vitamin B12), folic acid, hydroxocobalamine, nicotinamide, pyridoxine hydrochloride (Vitamin B6) and riboflavin (Vitamin B2).

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APPENDIX 2

TEN STEPS TO SUCCESSFUL BREASTFEEDING

Every facility providing maternity services and care for newborn infants should:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Helps mothers initiate breastfeeding within a half-hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practise rooming-in - allow mothers and infants to remain together - 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers -(also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Source: WHO (1991). Making hospitals "baby friendly" -- WHO/UNICEF goal is to promote breastfeeding -- . WHO New Release, July 8, 1-2. Geneva: World Health Organization.

APPENDIX 3

INTERVIEW GUIDE AND EXAMPLES OF THE INTERVIEW PROCESS

PART I: INTERVIEW GUIDE

Topics for interviews were identified according to specific aspects in the broad research question. As each interview was kept short to fit the researcher's need to keep accurate records in the absence of a tape recorder, each topic was covered over several interviews. The following guide was developed to ensure that all topics were covered, but questions were not necessarily asked in this order. Actual questions for each woman were developed with reference to the previous interview.

Specific aspect 1: Perceptions about food for women during pregnancy, postpartum and lactation

Topics

Description of foods a woman has during the pregnancy, postpartum and lactation periods

Beliefs and practices related to childbearing women

Beliefs concerning prohibited foods and recommended foods

Reasons for following food taboos

Reasons for not following food taboos

Specific aspect 2: Perceptions about breastfeeding, artificial feeding, and weaning practices

Topics

Description of infant feeding [since the baby was born]

Beliefs and practices about the first milk or colostrum

Beliefs about breast milk

Reasons for breastfeeding

Reasons for partially breastfeeding and/or bottle-feeding

Practices related to bottle-feeding

Reasons for giving solid foods [rice] during early infancy

Beliefs about rice

Weaning foods during late infancy

Reasons of giving and not giving certain weaning foods

Specific aspect 3: Factors which influence these perceptions

Topics

Factors which influence a woman in relation to her own foods during pregnancy, postpartum and lactation periods

Factors which influence a women in relation to infant feeding

Specific aspect 4: How were nurses seen as contributing and potentially, to maintaining or improving the nutritional status of infants?

Topics

Description of contact with nurses and other health workers

Experiences of attending an ante-natal service, giving birth at the hospital, attending a child health clinic

Viewpoints towards the advice provided by nurses and other health workers

Reasons for not following the advice provided by nurses and other health workers

PART II: EXAMPLES OF THE INTERVIEW PROCESS

During the first visit with Naree I introduced myself, explained the purpose of my visit, and asked if she would be willing to participate in the study. She said that she was willing to do so and told me to come to her house whenever I wanted to. As we were in the privacy of her home, I continued to question her about personal information i.e. age, schooling, religion, number of children and level of family income, and those of her husband and children. Before leaving I made an appointment to visit her on the following day.

Naree was a mother of three children and her youngest daughter Liew was 3 months old. During the day she usually stayed home and looked after her two daughters. Every interview took place at her house. Each interview began with friendly questions, followed by the purpose of the interview, and ended when Naree and I agreed to stop, as instanced in the first interview. The purpose of these interviews was to obtain the woman's perceptions about breastfeeding, artificial feeding and weaning practices.

The first interview

I greeted Naree and asked friendly questions, "How's Liew today? Did she sleep well last night? "

Naree, "Yes, she did. She woke up only twice."

I continued friendly questions, "Are you free now? Have you finished your housework?"

Naree, "I have finished washing clothes. Nothing much to do today. We can talk now."

I explained the purpose of the interview, "Today, I would like to talk to you about feeding Liew. But we don't need to talk about everything today. If you feel tired or have something else to do, please feel free to let me know. I'll come back and talk to you later"

Naree, "That's alright. Liew is sleeping. I don't need to do anything until she wakes up."

I began with question for the first interview, "Could you tell me what, and how, you have fed Liew since she was born?"

Naree, "Liew was born at the district hospital and we returned home the following day. I didn't feed her anything at the hospital. I put her to the breast on the second day. The milk came in and she sucked well. My breast milk has flowed well like it did when I breastfed Lek [her eldest son] and Lin [her second daughter]. I started feeding her rice [pounded sticky rice] when she was about a month old."

The interview was interrupted for a little while because Liew woke up and cried. Naree took her from a cradle, changed her diaper, and put her to the breast. I took the chance to jot down key words that would help me to reconstruct the interview. I thought that I'd better stop the interview so that I could analyse the data and planned questions for the next interview.

I expressed interest and concluded the interview, "What you have told me today is very interesting and I would like to know some more. Anyway, I think that you may want to do something else. Would you mind if we stop talking now and I come back tomorrow or any day that suit you?"

Naree said, "Yes, that's good because I also want to have a look for Lin [her 3-year-old daughter]. She's been out to play with my neighbour's kids. I wonder if she's hungry or not. She didn't have much breakfast."

I said, "Thank you. See you tomorrow"

The second interview

In the second interview to follow up on when breastfeeding was started I asked, "Yesterday you told me that you started nursing Liew on day two after giving birth. I am interested to know more about this point. Can you tell me how you know that you should start breastfeeding on day two, not before or after?"

Naree, "When I gave birth to Lek my aunt told me to wait until day two after giving birth. I didn't feel full on the first day either. So I waited until day two. On the first day I fed him only 1-2 spoons of water and he slept most of the time. I did the same when Lin and Liew were newly born."

I probed, "In addition to your aunt, have you talked with or heard from anybody else about when you should start nursing the baby?"

Naree, "Most of my neighbours said that they usually waited until day two or day three."

I probed, "Could you tell me what would happen if you put the baby to the breast sooner, for instance, a few hours after giving birth?"

Naree, "My aunt said that "good" milk usually comes in on day two or day three and "good" milk will make the baby grow well. I am afraid that if I start nursing before "good" milk comes in, the baby may not grow well."

I restated and asked survey questions, "Your aunt said that "good" milk comes in on day two or day three. I wonder if you could tell me what "good" milk is like."

Naree, "My aunt said that "good" milk is usually white and 'khoon' (opaque). My milk is also white and 'khoon'. Some of my neighbours said that their milk is sweet but I have never tasted mine. Anyway, my babies like it. Perhaps it's sweet."

STANDARD GROWTH CHART FOR THAI CHILDREN AGE 0 - 5 YEARS
(WEIGHT FOR AGE)