

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

**How Women Cope with Pregnancy and Early
Mothering after Recovery from an Eating
Disorder:
A Grounded Theory of Women's Experience.**

**A thesis presented in partial fulfillment for the degree
of Master of Science in Nutrition
at Massey University**

**Caroline Gunn
2005**



Abstract

This study used a qualitative approach, specifically Grounded Theory to explore how women who have had an eating disorder earlier in their lives, subsequently “recovered”, experienced pregnancy and mothering. Ten women with a previous eating disorder, who were now mothers, were interviewed. Also, eight women without a history of an eating disorder and of comparable body mass were also interviewed for reference purposes. The study aimed to gain an understanding of how a woman recovers from an eating disorder, what the experience of pregnancy is like for them, with an emphasis on weight gain and nutritional needs and how they managed breastfeeding and the introduction of solids. The Grounded Theory developed focused on the core category of “measuring up” and how this need to measure up, cuts across all the women’s life stages. The eating disorder is seen as a coping strategy when the need to measure up first presents. As the women were able to access more constructive coping strategies they recovered. For many of the women, exercise became their alternate coping strategy for the need to “measure up”. The “recovered” women were very motivated to, and did have healthy pregnancies. Most women wanted nutritional advice during their pregnancy but said they were not offered any by health professionals. Their pregnancies were characterised by predominantly very high weight gains (6/10), a couple of very low weight gains (2/10) with only two women gaining within recommended limits. Their infant’s birth weights were above normal, the majority of women breastfed for 9 months and there was no reported difficulty with infant solids feeding. Some women with a previous eating disorder reported difficulty when their own children (girls) reached adolescence. There was considerable eating restraint within the reference group and these were characterised by low prepregnancy BMIs and low pregnancy weight gains. The implications of this research are that young people must be encouraged as early as possible to seek out more constructive coping strategies for feelings of negativity. The recovered women appeared to experience relatively trouble free pregnancies without undue weight gain anxiety and early infant feeding was not problematic. The study highlighted a need for an increased emphasis on nutritional guidance for all women prior to conception and during pregnancy, as there can be significant dysfunction with food and feeding, present in women without a history of an eating disorder.

Acknowledgments

I would like to express my sincere thanks to the following people associated with this research project:

All the women who agreed to participate and shared their personal history of an eating disorder with me. Your honesty and vision for change inspired me.

My thesis supervisor, Dr Jane Coad of the Institute of Food and Nutrition, Massey University, for her valuable comments and encouragement, as well as providing guidance during the draft stages of this study.

The Massey University library staff, without exception, who go above and beyond the call of duty to access your requirements and are unfailingly courteous and efficient.

My friend Andrea Hannah, who shared the highs and lows of writing a thesis. Your interest, support and friendship are a gift in my life.

I would also like to acknowledge the love and support of my husband Gerard and children Jeremy, Mark, Alexandra and Lucia.

Approval for this study was granted by Massey University Human Ethics Committee in December 2003.

Contents

Abstract	iii
Acknowledgements	iv
Contents.....	v
List of Tables.....	x

Chapter one

Introduction and overview.....	1
Aims of the study	3
Significance of the study	4
Study Questions.....	4

Chapter two

Literature Review	6
History	6
Incidence	8
Definition of terms	10
Anorexia nervosa.....	10
Bulimia Nervosa.....	10
Eating Disorder Not Otherwise Specified	10
Discussion on the Classification System.....	11
Reproductive Functions During and After an Eating disorder.....	13
Anorexia nervosa.....	13
Physical effects.....	13
Endocrine abnormalities.....	13
Pregnancy	14
Poor nutrition and fetal outcome	14
Effects on the fetus	15
Weight gain during pregnancy	17
Birth complication.....	17
Bulimia nervosa.....	19

Reproductive Function.....	19
Endocrine abnormalities	20
Pregnancy and Bulimia.....	20
Periconceptual Environment and nutrition	21
Infertility Services and Eating Disorders	22
Depression	23
Sexual abuse	24
Exercise.....	25
Mothers who have had an eating disorder and their children	27
Body satisfaction and perception of size	28
Genetic influences.....	30
Breastfeeding and the postpartum period	31
Feeding and Mealtimes.....	32
Conflict over meals.....	33
General Parenting Function and Family conflict.....	36
Weight and Shape concerns in the mothers and their children.....	37
Summary of literature review	38

Chapter Three

Research Design, Methodology and Analysis	40
Research Design - Grounded Theory.....	40
What is Grounded Theory methodology	42
Sources of Data.....	43
Coding.....	43
Memoing.....	43
Constant Comparative Analysis.....	43
Theoretical Sampling.....	44
Core category.....	45
Theory saturation	45
Trustworthiness and reliability	45
My methodology.....	46
Ethical issues.....	46
Transcription.....	47
Accessing participants	47

Sample Description	49
Data Collection.....	49
Interview questions.....	50
Reference group of women	51
Sources of data	51
Data analysis.....	52
Coding and constant comparison	52
Memoing	53
Core category	53
Theoretical sampling.....	54
Trustworthiness of study	54
Summary	55

Chapter four

Preface to the finding	56
Introduction	56
The reference group.....	57
Summary	59

Chapter five

“A way out of feeling”	60
The ground conditions-critical comments /sexual abuse	61
Taking control/Losing control.....	68
Positive reinforcements	
– feelings, looks, comments and the role of visual imagery	70
Self image struggles	72
Summary	76

Chapter six

Recovery - the development of alternative strategies	77
Alternative strategies	78
Exercise-from rigid to flexible, effects on self esteem	78
Gathering information.....	83
Medication	84
Counselling	85
“Finding God”	86
Regression during times of stress	87
“Using the signals”	88
“Learning to trust”	88
Summary	89

Chapter seven

“Doing the right thing”	90
“Eating right for the baby”	91
Consciousness of nutritional needs.....	91
Lack of advice.....	92
Weight gain.....	96
Seeking out the information.....	104
Who wants it	105
“Feeding right” (baby).....	110
Breastfeeding “Doing what’s best for baby”	106
Solids introduction.....	110
Summary of reference group	113
How we categorise women as eating disordered or not.....	115
Summary	116

Chapter eight

Repatterning	118
Changing the focus	119
Projection of fears	121
A genetic link	123
Modelling	124
Summary	125

Chapter nine

The Basic Social process “Measuring up”	126
Conclusions: index group	135
Conclusions: reference group	136
Model	137
Implications for education	139
Implications for practice	140
Limitations of study	142
Areas for further research	144
Concluding statement	145
Appendix 1	146
Appendix 2	150
Appendix 3	159
Appendix 4	154
Bibliography	165-184

Tables:

- 1) Results of the Dutch Famine By Stage of Gestation (pg 19)
- 2) Index women's details (pg 100)
- 3) Reference (control) group details (pg 102)
- 4) Recommended Total weight gain for pregnant women by pre-pregnancy BMI (pg 103)

Chapter One

Introduction and Overview

My study is concerned with women who have experienced an eating disorder and how that experience evolves over time. Specifically, I was interested in their recovery and how they manage pregnancy and early mothering.

Does the previous eating disorder have any noticeable affect on their experience of pregnancy, with respect to, nutrition and weight gain? Also, were any difficulties with breastfeeding, the introduction of solids and weight gain for their infant in the first year if the mother had recovered from her eating disorder?

I later extended the study to include the women's concern for their adolescent children

Eating Disorders: An Overview

Maternal nutrition is a major factor in a healthy outcome for the baby and more efforts need to be made to address inadequacies in nutritional support and education for women prior to conception and during their pregnancy.

Eating disorders are increasingly common in today's society among women from every social and educational background. Given that victims often cloak their eating disorders in secrecy, the recent estimates (self reported) of 11½ % of women in their childbearing years (Larsson and Andersson-Ellstrom, 2003) represent a significant number of women who are stating they have an eating disorder. As women have long held the influential role as the nurturers and guardians of family health – this number of childbearing women admitting to serious difficulties with food has important considerations for the well being of not only the women concerned but also in the implications for the well-being of the future generations (Robb-Todter, 1996). The woman's pre-pregnancy health habits, pregnancy itself and, in particular, the first years of the infant's life are the essential starting point for a healthy life for all children. Eating an inadequate diet, exercising excessively or gaining an inappropriate amount of weight can jeopardise fetal development because the developing fetus is so reliant on the mother's nutrition and dietary intake for its supply of various nutrients.

Insufficient amounts of nutrients can contribute to a variety of problems for the fetus and newborn as well as developmental processes, which are reliant on an array of vitamins and trace elements (Miller, Faber, Asai, D'Gregorio, Ng, Shah and Neth-Jessee, 1993). It has been well documented that pregnancy in a woman with an eating disorder is prone to complications such as prematurity, increased perinatal mortality, hypothermia, hypoglycaemia and infection (Brinch, Isager and Tolstrup, 1988; Stewart, Rasking, Garfinkel, McDonald and Robinson, 1987; Van der spuy, 1988;) and contrary to earlier beliefs, the developing fetus is vulnerable to deficiencies in the maternal diet and can be severely affected. King, (2000) says that while there exists thresholds in the capacity to adjust nutrient use to the amount supplied for all nutrients, fetal growth and development will be affected when these intakes fall below threshold and these affects are more adverse for fetal than maternal health.

Weight preoccupation and other related behaviours in women prior to and during their childbearing years are now increasingly recognised as having implications for society as a whole. There are additional concerns that a woman who is binge-eating or preoccupied with her weight, will have a negative effect on her mothering behaviour and any improper food behaviours or poor eating habits might be perpetuated in her children. The mother's attitude to feeding, her interpretation of hunger and other signals are important factors in her child's learned eating behaviour (Wright, 1987). He believes many of these children may continue with disordered eating throughout their adult life. Failure to breastfeed (Foster, Slade and Wilson , 1996; Stein and Fairburn, 1989) or supply adequate energy intake in the first few years of life has been repeatedly reported in children of women with an eating disorder (Fahy and Treasure, 1989; Hodes, Timimi and Robinson, 1997; Lacey and Smith, 1987; Timimi and Robinson, 1996; van Wezel-Meijer and Wit, 1989).

Many women with a previous history of an eating disorder are weight recovered by the time of childbearing. It is commonly assumed that because they are "weight recovered" that their diet will also have normalised. Also because of an often-intense preoccupation with food, energy intake and a passion for reading literature about food and weight, it is often assumed that women with an eating disorder have excellent nutrition knowledge. However Reiff and Reiff, (1992)

found women with an eating disorder, have food consumption patterns that are unhealthy, unusual or nutritionally unbalanced. They say unless a woman receives specific and individualised help with planning a balanced and healthy diet it is unlikely her nutrition will improve correspondingly along with her increased weight during recovery. This is important point in my study because the women who admit they have had an eating disorder do not tell their G.P or lead carer during their pregnancy about their history of dysfunctional eating and along with the many other women with abnormal or unhealthy eating patterns in the child bearing years these women do not receive adequate individualised nutritional care even during pregnancy, and prenatal nutrition education can amount to no more than “vague admonishments to eat right” (Levine, 1993). Health professionals need to have a good understanding of how women with an eating disorder (current or previous) think and feel about their bodies and the weight they gain during the pregnancy and be alert to any signs of weight abnormalities as well as the possibility of the return of the eating disorder within the first year of the infants life.

Aims of the study

The aims of this study were to gain an understanding of how women recover from an eating disorder and subsequently, what is their experience of the nutritional needs and weight gain in pregnancy. Does the previous eating disorder have any noticeable effect on their experience of pregnancy, with respect to, nutrition and weight gain? Also, were there any difficulties with breastfeeding, the introduction of solids and weight gain for their infant in the first year if the mother had recovered from her eating disorder?

I extended the study to include some of the women’s concern for their adolescent children.

Specifically my aim was:

- To establish a Grounded Theory to explain how some women recover from an eating disorder and manage the experience of pregnancy and early mothering with a focus on weight gain and nutritional needs at this time.

Significance of the study

While there has been considerable research into eating disorders over the last twenty five years, and in particular the effects of an eating disorder on pregnancy and childrearing there has been a dearth of information gleaned from the woman's perspective about how they manage pregnancy and early feeding of their children if they are recovered. This study confirms the importance of recovery prior to pregnancy while raising questions about the lack of nutritional advice specifically tailored to an individual woman's needs during the pregnancy when increasingly there is evidence that the prenatal and perinatal periods are a critical window in time when considerable differences can be made in the long-term health of the infant through the mother having optimal nutrition. This study examines how women who, having had an eating disorder, recover and manage their pregnancy with respect to weight gain and meeting their nutritional needs at this time. The study also looks at breastfeeding practices and the introduction of solids in the first year. It also was extended (because of the lead of several women participants) to briefly look at how the dynamics of the "core category" can resurface later with a form of projection onto their adolescent daughters.

The study also includes a reference group of women who were matched to my index group by age and similar BMI's. This group of women said they had never had an eating disorder and their experiences are a way of broadening understanding of some women's weight gain concerns and nutritional needs during pregnancy and the first year of the infant's life.

Study Questions

Initially the study was framed within the following ideas

- How did the women manage their eating disorder and recovery?
- How did the women cope with their pregnancy (was there any problems with conception, weight gain, being weighed)?
- What was breastfeeding and solids feeding of their infant like for them?
- Did any of their previous attitudes to food and weight restriction return after the pregnancy?

As can be found with the Grounded Theory methodology as the data was collected I realised many of the women wanted to discuss additional issues surrounding their eating disorder and recovery (such as why they think they developed it) so this broadened the direction of the study as I indicated above. For a list of questions that guided the interviews please refer to the appendix three.

Chapter Two

Review of the literature

This chapter reviews the literature related to Eating disorders with particular focus on the effects of an eating disorder on conception, pregnancy and early mothering. There is also material reviewed regarding the concepts of environmental and genetic transmission of eating disorders

Literature Review

History

Recent research using long study periods conclude there has been a steady rise in the incidence of anorexia since the 1950's (Hoeken, Seidell and Hoek, 2005). However, a variety of patterns of food refusal and self-starvation have been documented throughout history (Vandereycken and van Deth, 1994). Prolonged fasting was a recognized religious discipline used by noblewomen of medieval Europe (e.g Catherine of Siena) and historians have suggested that the female saints of the Middle Ages wanted to liberate themselves from subordinate social roles (marriage and childbearing). As the prestige of religious fasting declined and attitudes of the church changed around the 17th century, physicians made the first known clinical observations of anorexia as a disorder of the mind. Gull (1874) and Lasegue (1873) were the first physicians to publish articles naming the condition of anorexia nervosa and have it taken seriously by their medical colleagues (cited in Russell, 1995).

Presumably neither Saint Catherine nor the male religious ascetics were worried about being their weight or looks and recent research has shown modern day anorectic Chinese women in Hong Kong are also not concerned about weight or looks but refer to "family problems"(Harvard Mental Health Letter, 1997). Women who starve themselves may be rejecting unacceptable biological and social demands and if this idea is correct – then some women with eating disorders are making an inarticulate social protest - a hunger strike (Harvard Mental Health Letter, 1997). Although fasting saints, hunger strikers and anorexics differ in many respects they have one thing in common: all have relatively little power. Fasting can be one way of self-assertion in a world that

offers little hope of self-fulfillment (Vandereycken and van Deth, 1994). In earlier centuries, medical authorities used the terms chlorosis, neurasthenia, and hysteria to describe an eating disorder and found they appeared to be particularly common among young women who sought out greater educational opportunities (Fallon, Katzman, and Wooley, 1994).

According to U.S medical records the prevalence of anorexia was relatively high among females born between 1916-1930, it decreased among females born in the 1930's and then rose precipitously once more among females born after World War II leading people to think it was a new disease (Lucas, Beard, O'Fallon and Kurland, 1991).

Slenderness had come into fashion. Fallon et al, (1994) state in their book "Feminist perspectives on eating disorders" that the culture of slimming is a post World War II phenomenon but that the "forgotten syndrome" has afflicted many women during periods of change in female roles. Other authors have proposed that social pressures for thinness in women escalated greatly during the twentieth century as a result of shifts in attitudes concerning women's attractiveness. After centuries of admiration for curvaceous women, thinness became idealized (Stewart, Robinson, Goldbloom and Wright, 1990). Various theories have been proposed to explain this emphasis on thinness. The prepubescent look is thought to promote the idea that the most desirable body shape for a female is that of a child (Fallon et al, 1994). Another theory put forward is that the pressure to compete with men increased in the latter half of the twentieth century and subsequently the attempts to eliminate the female figure will reinforce the move away from traditional female stereotypes (Orbach, 1978). Women themselves say that today, unlike their mothers or grandmothers, they may be able to choose to have a family as well as a career they want, but there is also the expectation now that they will be slim, fit and attractive while doing so. Whether the driving force for the rising incidence of eating disorder among young women is generated through the media portrayal of successful, thin women who appear to have it all, or feminist views whereby women are oppressed in a patriarchal society or the idealisation of the youthful figure, there is an no doubt that an increasing number of women are using food as a "drug of choice" (Thompson, 1994).

Incidence of eating disorders in the community

Due to the secretiveness of its victims the true incidence of eating disorders in the community is unknown but over the years researchers have estimated between 1-6% of all women (western) will have an ongoing or prior eating disorder (Gotestam and Agras, 1995, Rastam and Gilberg, 1992; Spitzer et al, 1992; Turton, Hughes, Bolton, and Sedgwick, 1999). Recently Turton et al, (1999) found the prevalence of eating disorders in pregnancy to be 4.9% after screening 530 pregnant women with the Eating Attitudes Test, however, a more recent study by Swedish researchers Larsson and Andersson-Ellstrom, 2003, using self report found the prevalence of eating disorders among 454 recently delivered women to be 11.5%. Recent analysis (Hoeken et al, 2005) of the epidemiology of eating disorders suggest say that records based studies will grossly underestimate the true incidence, because not all cases are referred to mental health care or become hospitalised. Other authors have previously noted when recruiting subjects locally and nationally for studies that researchers can find that many of the subjects have never been treated for anorexia nervosa because they had spontaneously recovered often over a period of months to years. It is not certain which group (those who received diagnosis and treatment and those who had neither) is more representative of the population with anorexia nervosa (Srinivasagam, Kaye, Plotnicov, Greeno, Weltzin and Radhika Rao, 1995). There is, however, general agreement that for an upward trend in the incidence of anorexia nervosa since the 1950's and the increase is most substantial in females 15-24 years of age (Lucas as cited in Hoeken, 2005).

While it is believed there is a lack of awareness of these disorders, accurate diagnosis can be undoubtedly hampered by women's natural reluctance to spontaneously disclose details of their eating dysfunction in the absence of specific questions about dietary habits and attitudes to weight gain (Lemburg and Philips, 1989). Eating disorders can go unrecognized in clinical settings in up to 50% of cases and even when the disorders are detected, even dangerously ill patients can be averse to accepting appropriate treatment (Becker, Grinspoon and Herzog, 1999). Haworth-Hoepfner (2000) states, in a study of body image and eating disorders, that to obtain a more complete representation of white, middle class, anorexics or bulimics, it was necessary to include in the study, not only women who had been clinically diagnosed with anorexia or bulimia but also those

who had never received medical care for their conditions (approximately 50:50). Other authors have previously commented on the low prevalence of anorexia in the population at large 1-4% (Garfinkel and Garner, 1982; Gordon, 1990), however the discrepancy between the treated versus true prevalence rates reported for the disease (Gordon, 1990; Nylander, 1971) is thought to be due to the secrecy and denial surrounding these disorders. Kendler, McLean, Neale, Kessler, Heath and Eaves, (1991) also found prevalence rates of DSM-IV bulimia nervosa indicate only a minority of subjects with bulimia seek treatment. They concluded the liability to fully syndromal bulimia nervosa will affect around one in 25 women at some point in their lives and is substantially influenced by both epidemiological and genetic risk factors. Both narrowly defined bulimia and less severe bulimia-like syndromes have the same risk factors.

It is interesting to note that many more women than are clinically diagnosed, when asked, will describe themselves as having an eating disorder. It is important to keep the woman's perspective here, that if they consider they are, or have been out of control for a significant period of time with eating, bingeing or vomiting behaviours yet have not consulted a doctor or will not normally admit to these behaviours when asked, then their acknowledgement of their eating problems should carry substantial weight for researchers interested in eating disorders.

Palmer, (2005) suggests any research into eating disorders should include atypical cases (ED-NOS) as well as the typical. Studies of the epidemiology of bulimia frequently note that, in the general population, the syndrome is more a spectrum of pathology than a discrete disease entity. A recent review recommended more emphasis should be placed on studying factors involved in the whole spectrum of the disturbance that exists in the community rather than distribution of the disorder (Fairburn et al, 1990). Beglin and Fairburn, (1991) state that it may never be possible to get accurate figures for the prevalence of eating disorders because many women with high rates of eating problems choose not to participate in surveys on this problem. Gotestam and Agras, (1995) stated that Eating Disorder - not otherwise specified (ED-NOS) comprises the largest group of women with an eating disturbance. A common belief that high social status raises the risk of eating disorders may no longer be correct, at least for American women. In a 1996 review of 13 surveys, researchers found that eating disorders

were equally common among whites and blacks and in all social classes (Harvard Mental Health Letter, 1997). However statistics obtained from the Eating Disorder Service (2003) in Wellington show a different picture in New Zealand, with 88% of their clients being N.Z. European/Pakeha and less than 6% identified as other races (N.Z. Maori, Chinese, Indian, Japanese, Latin American/Hispanic).

Definition of Terms

Anorexia nervosa is the most visible eating disorder and had been described in literature dating back to the medieval times especially in a religious context with female saints.

Within the field of Eating Disorders, anorexia nervosa was identified as a separate and distinct disorder over the course of the last century (Palmer, cited in Treasure et al, 2005). Clinical descriptions of patients with Anorexia nervosa are marked by a significant weight loss, although the specific amount of weight loss required for a diagnosis of anorexia nervosa has changed over the years, it is generally agreed that intentional weight loss of fifteen percent or more of average expected body weight for height is indicative of anorexia nervosa (Mitchell-Gielegem, Mittelstaedt and Bulik, 2002).

The other two classes of eating disorders listed in the current Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) are bulimia nervosa and eating disorder not otherwise specified (ED-NOS).

Bulimia (bulimia nervosa) is characterised by the person binge eating and then compensating by self induced vomiting (usually) or other methods such as use of laxatives, diuretics or fasting.

This behaviour has to occur reasonably frequently for this to be recognized as Bulimia (twice a week for at least 3 months) any less and it not included.

Eating disorder not otherwise specified (ED-NOS) in general is defined essentially by exclusion, which is any clinical eating disorder that does not fulfill criteria for anorexia nervosa or bulimia nervosa. For example a woman with apparent anorexia nervosa but who is still menstruating or a woman who is binge

eating and vomiting but does it less frequently than twice a week or who does it more than twice weekly but stops within three months. Binge eating disorder is included only as a provisional category “for further study”. It is strictly a variety of ED-NOS within the DSM-IV although in practice it has come to be accorded the status of a diagnosis in its own right (Palmer, 2003). (For full diagnostic criteria for eating disorders refer appendix one)

Discussion on the Classification System and what is considered an eating disorder.

This current classification system is considered by some to be inadequate (Palmer, 2003).

There are a wide range of eating disturbances which are experienced by women and men but which are difficult to define or fit within the limitations of the current classifications-ICD-10 and DSM-IV. Anorexia nervosa has been traditionally the most well-known and easiest eating disorder to notice because of “loss of weight” being easy to see and measure. Bulimia nervosa is next, with vomiting after eating to avoid weight gain being the traditional hallmark of this disorder. The incidence of this can be even harder to assess accurately due to the more secretive nature of the disorder.

However anorexia (anorexia nervosa) and bulimia (bulimia nervosa) are far from being discreet entities with a substantial minority of bulimia nervosa sufferers having a previous history of anorexia nervosa (and also relapses during the bulimic period of more anorexia nervosa). As well, some women with bulimia nervosa can develop anorexia nervosa. Many women appear to have sub-clinical conditions which may fit the lesser category ED-NOS but this condition can change and become anorexia nervosa or bulimia nervosa as time progresses. Conversely can those with the label of anorexia nervosa or bulimia nervosa over time can move into a more sustained ED-NOS (Palmer, 2005). Palmer believes an ideal classification should consist of categories that are mutually exclusive and collectively exhaustive and its entities should cover the ground and in this regard our present classification system of eating disorders measures up to these standards rather poorly (Palmer, 2003).

There appear to be a number of specific situations where the criteria for diagnosis of anorexia nervosa or bulimia nervosa seem to fall short. For example:

- 1) A woman who is vomiting every day or indeed after every meal but has a near normal weight and is not bingeing cannot be regarded as having bulimia nervosa. Her's would still be an eating disorder of clinical significance but have to come under the ED-NOS label.
- 2) A woman with the typical anorexia nervosa profile i.e. very low weight, heightened weight/shape concern but who is on "the pill" and therefore has regular periods does not fit the criteria for anorexia nervosa.
- 3) Women as described by Lee, Ho and Hsu, (1993) that have all the symptoms of anorexia nervosa except for lacking any weight concern.

Another criteria that should come under scrutiny is that of "weight concern" (or fear of getting fat). This criterion is central to the disorder and is meant to provide the motivation for reducing the intake of food termed "eating restraint." However Lee et al, (1993) describe many young women in China who otherwise seem to have anorexia nervosa but who lack evident weight concern indeed the earliest descriptions of anorexia nervosa in the nineteenth century by Gull and Lasegue (Mount Sinai) do not mention it despite giving very detailed descriptions of the disorder (cited in Palmer, 2005). Is it because there were no scales back then? (Household bathroom scales were introduced in the 1950's and many had them by the sixties). Palmer, (2005) states "motivated eating restraint" should be the central component of eating disorders to encompass non-weight concerned sufferers. Weight concern would be just one motivation for such restraint among others such as ideas of religion, fitness and asceticism.

Reproductive Functions During and After an Eating disorder

Anorexia and bulimia are often grouped together in discussions of reproduction and eating disorders, making differentiations between the two conditions more difficult. However, because the effects on reproduction, fertility and birth are different in these two eating disorders I have separated them out. It is important to note that sub-clinical versions of both, including ED-NOS still have effects on the reproductive system (Kreipe, Strauss, Hodgman and Ryan, 1989) but they may not be as marked as in the full-syndromal disorder.

Anorexia Nervosa: Physical Effects on reproductive functions

Eating disorders such as anorexia nervosa have a marked physical effect on reproductive function. Amenorrhoea due to starvation is a diagnostic criterion for anorexia nervosa. Menstruation disorders have also been reported by 40% women with bulimia (Fairburn cited in Zipfel, Lowe and Herzog, 2005). Weight loss of some 10-15% of normal weight for height delays menarche and retards pubertal development in the pre-menarchal women and causes secondary amenorrhoea in the post menarchal woman (Bates, Bates and Whitworth, 1982). They found reproductive consequences of sub-optimal nutrition are usually reversible on restoration of normal body composition by refeeding (Bates et al, 1982, Reiff and Reiff, 1992). Leptin has been shown to play a significant role in the female cycle (Hebebrand, Blum, Barth, Coners, Englaro, Juul, Ziegler, Warnke, Rascher and Remschmidt, 1997). Other authors, (Kopp, Blum, Ziegler, Lubbert, Emons, Herzog, Herpertz, Deter, Remschmidt and Hebebrand, 1997 and Zipfel et al, 1998) have proved that leptin acts to trigger pubertal changes as well as being a mediator between the female cycle and her nutritional status.

Endocrine Abnormalities

The principal endocrine abnormality in women with disturbed reproductive function arising from under nutrition is reduced gonadotrophin secretion (Szmukler, Dare and Treasure, 1995). Severely underweight patients with anorexia nervosa show abnormalities in the secretion of luteinising hormone (LH) and follicle stimulating hormone (FSH). The secretion pattern of these pituitary hormones can regress to an infantile secretory pattern even with a short fasting period (Schweiger cited in Zipfel et al, 2005). Fichter and Pirke (1995) found on admission for in-patient treatment, 14 out of 16 patients with anorexia nervosa had an infantile secretory pattern for these two hormones. All 16 patients with anorexia nervosa developed a pubertal or an adult secretory pattern of LH and FSH with a 10% weight increase or with normalization of weight on discharge.

Devlin et al, (1989) confirmed these findings, as did the Munich Starvation Experiment (MUSE) study on healthy fasting women. It appears more likely that a temporary reduction of caloric intake is primarily responsible for the observed hormonal changes not body weight. The results from the above studies, suggest menstrual cycle disorders are the result of malnutrition and significant weight loss.

Pregnancy

Pregnancy in women with an eating disorder is prone to complications (Brinch et al, 1988; Mitchell et al, 1989; Stewart et al, 1987; Van der Spuy, 1985). However, although it is unusual for pregnancy to occur in anorexia nervosa, there are cases reported of women who gained sufficient weight to become pregnant or who have received treatment for infertility (Treasure J. and Russell G., 1995).

Poor nutrition and fetal outcome

The critical role maternal nutrition has in the development of the fetus has been shown as far back as 1943 when Burke et al, did carefully controlled studies to show how much maternal dietary quality influenced infant outcomes. Their prospective study of 216 mothers and their infants showed if the diet of the mother during pregnancy was poor, she would undoubtedly have an infant whose physical condition was poor. A review of existing evidence has refocused attention on the importance of maternal nutrition during pregnancy (Goldberg and Prentice, 1994). Much of the work on maternal and fetal determinants of disease in later life had been carried out by Barker and associates over the past 16 years. They have proposed the following 5 hypotheses:

- 1) Undernutrition in early life can have permanent effects
- 2) Rapidly growing fetuses and neonates are more vulnerable to undernutrition than those growing more slowly
- 3) Undernutrition has different effects at different times in early life
- 4) Undernutrition results from inadequate maternal intake, transport, or transfer of nutrient
- 5) The permanent effects of undernutrition include reduced cell numbers, altered organ structure and resetting of hormonal axes (Barker et al, cited in Goldberg and Prentice, 1994)

More recent studies (Butte, Wong, Treuth, Ellis, O'Brian Smith, 2004; Fall, Chittaranjan, Rao, Davies, Brown, Farrant, 2003; Friis, Gomo, Nyazema, Ndhlovu, Krarup, Kaestel, and Michaelsen, 2004; King, 2000; King and Sachet, 2000; Merialdi et al, 2003; Ramakrishnan, 2004 and Villar, Merialdi, Gulmezoglu, Abalos, Carroll, Kuller, and de Onis, 2003) have substantially advanced our knowledge regarding the nutritional needs of pregnancy and the pivotal effects this can have for the fetus. King (2000) states that while there exists thresholds in the capacity to adjust nutrient use to the amount supplied for all nutrients, fetal growth and development will be affected when these intakes fall below threshold and these affects are more adverse for fetal than maternal health. Underlying mechanisms responsible for imprinting risk of chronic disease by early diet remain to be elucidated, for example, what type and degree of fetal malnutrition leads to disease risk? However, the implications of this association are immense and will, if substantiated, demand intense scrutiny of current prenatal nutrition policies (King and Sachet, 2000).

Effects on the Fetus

The most important effect of undernutrition on reproductive performance is the outcome of pregnancy particularly with respect to intrauterine growth retardation and low birth weight with resulting complications (Ramakrishnan, 2004). Retrospective studies suggest that women's attitudes about weight gain during pregnancy will play a significant role in the pregnancy experience and outcomes (Fairburn and Welch, 1990). We now know that the reproductive cycle is a continuum- a woman's nutritional status at the time she conceives influences her physiologic response to pregnancy, and her nutrition during pregnancy influences preparation for lactation (King and Sachet, 2000).

Contrary to earlier beliefs, the developing fetus is vulnerable to deficiencies in the maternal diet and can be more severely affected than the mother (King, 2000). The cumulative energy needed for the increase in basal metabolism throughout the pregnancy is ~ 151MJ (36,000kcal) and a daily increased energy need in the last quarter of pregnancy is .97MJ (230Kcal) (King, 2000). The extra energy necessary is for both obligatory and semi-obligatory requirements. The obligatory costs include energy required for the growth of the fetus, supportive tissue (uterus, placenta and amniotic fluid), breast tissue and the expansion of maternal blood

volume. The semi-obligatory costs comprise the energy required for the deposition of extra lipid reserves. The latter appear to be only necessary in some women, depending on the intention to breastfeed, and levels of physical activity (Goldberg et al, cited in the Ministry of Health's Food and Nutrition Guidelines for Healthy Pregnant Women, 1995)

In undernourished women, it appears the energy costs of maintaining pregnancy may be offset by adaptive adjustments in other components of maternal energy balance. For example, basal metabolic rate (BMR) generally increases during the pregnancy, especially in the third trimester, however the extent of the increase may depend on maternal nutritional status, as it has been found that BMR increases more among women in developed countries than in women in developing countries (Institute of Medicine, 1990). Another adaptation may be a decrease in the thermic effect of feeding during pregnancy, which would conserve energy (Institute of Medicine, 1990).

Fall et al, (2003) studied the effects of fetal undernutrition in developing countries where large numbers of infants experience adverse consequences for their immediate survival and lifelong health. Micronutrients are essential for growth and maternal micronutrient deficiency, frequently multiple, particularly in women not eating sufficient calories may be an important cause of intrauterine growth retardation. Fetal demands may double nutrient requirements (King, 2000). Although fetal demand for nutrients occurs primarily during the last half of gestation when more than 90% of the fetal growth occurs adjustments in nutrient metabolism are apparent within the first few weeks of pregnancy. Although there are multiple potential adjustments for the metabolism of nutrients during pregnancy, a threshold in the capacity to make those adjustments exists (King, 2000). Clearly the woman who starts pregnancy undernourished and continues to have an inadequate intake is at a considerable nutritional disadvantage.

Butte et al, (2004) measured the energy cost of pregnancy in women classified before pregnancy into different BMI groups. The results confirmed earlier observations that the increase in maintenance energy metabolism, one of the main components of the energy cost of pregnancy, varies in response to the prepregnant body fat content. More evidence is accumulating that the prepregnancy period is

the best time to prepare for the demands of pregnancy. For example, provision of supplements 5-7 months before conception instead of within 2 months, resulted in higher birth weights (131 gms) and a greater birth length (0.3 cm) (Caan et al, cited in King, 2000).

Weight Gain during pregnancy

Weight gain during pregnancy has been controversial over time and recommendations on the optimal amount of weight to gain during pregnancy and the basis of these recommendations have continued to change particularly in the last 30 years (Abrams, Altman, Pickett, 2000). Prior to 1970, it was common practice to advise restriction of weight gain to 6-9 kilos with the rationale being that higher maternal weight gain caused complications with birth difficulties and toxemia (Abrams et al, 2000). Weight gain recommendations have shifted upwards since then because of research linking lower maternal weight gain to relatively high rates of infant mortality, disability and mental retardation (Abrams et al, 2000). The Institute of Medicine (IOM) of the National Academy of Sciences (1990), recommended weight gain ranges based on a woman's BMI to help improve infant birth weight. It has been subsequently found that pregnancy weight gain within the IOM's recommended range does result in the best outcome for mothers and babies. These weight gain ranges were higher than previously recommended, for example, a gain of 11.5-16 kg is recommended for pregnant women who start pregnancy with normal BMI and 12-18 kg if the BMI is <20.

Birth Complications

Low maternal weight before pregnancy and poor weight gain during pregnancy are known to result in an increased prevalence of low birth weight infants (van der Spuy et al, 1988). Further studies have confirmed complications include preterm delivery, low birth weight, higher incidence of Caesarean birth and low Apgar scores (Marsh, 1999; Muscari, 1998; Stashwick, 1997). Earlier studies showed underweight, pregnant women have significantly higher rates of premature rupture of membranes, anaemia, endometritis and cardiac and respiratory problems (Edwards, Alton, Barrada, and Hakanson, 1979; Niswander and Jackson, 1974). The consequences for the infant whose intra-uterine growth has been compromised by poor nutrition can be considerable (Van der Spuy, 1988). The fetus may experience antenatal or intrapartum asphyxia, which can result in an

increase in fetal distress, damage or death. Once delivered, these infants are at an increased risk from hypothermia, hypoglycemia and infection in the neonatal period and they have an increased perinatal mortality rate (Van der Spuy, 1988).

Women who have had an eating disorder but recovered prior to becoming pregnant appeared to reduce the incidence of birth complications (Stewart et al, 1987). He described smaller babies with lower 5 min Apgar scores in women who have had an active eating disorder during their pregnancy compared to those whose eating disorders were in remission. For infants born to a woman with an eating disorder, there is still long term, developmental sequelae. There is often continued delay in both physical and neurological development and some growth-retarded infants subsequently show evidence of impaired intellectual ability (Van der Spuy et al, 1988). Finally, besides the risk of low birthweight and perinatal death, the risk of congenital malformations is increased in the fetus of the malnourished woman (Stewart, 1992).

One of the more well known studies on the effect on reproduction after an eating disorder was done by Brinch and associates in 1988 where a follow-up study of 151 former patients with anorexia nervosa was done twelve and a half years later. Of the 86 children born to 50 of the original 146 women there was twice the expected rate of prematurity and perinatal mortality was 14% (six times the expected rate). At least 36 of the 50 mothers recovered from their anorexia before they conceived though these women cannot be identified from the statistics.

One of the best records of the effects of acute malnutrition on fertility and pregnancy outcome was seen by documenting the results of the Dutch Famine of October 1944 to May 1945 (Susser and Stein, 1994). The records of this event are of particular value since they demonstrate the effect of sudden acute food scarcity on a nutritionally normal population. In addition to a decrease in fertility with conception rates declining to 53% of expected (Stein et al, 1975), pregnancy outcome was also affected. The nutritional deprivation resulted in an increase in the perinatal mortality and in the incidence of congenital malformations. The effects were most marked if the periconceptual period was during the famine. Susser and Stein, (1994) particularly focused on developmental timing and the effects of the famine. Their results demonstrate that a nutritional insult occurring

in early pregnancy has a more profound effect on fetal outcome than one that occurs in late pregnancy. In addition, stillbirths increased sharply and solely with the first trimester exposure to the famine, as did first week death rates (infection an accompanying factor). Deaths up to 90 days appear to be significantly related to third trimester exposure to famine. As well, this cohort showed an increase in mortality to some degree from 3 months to 18 years.

A summary of the effects of the famine correlated with the stage of development is shown in this table 1 (refer Susser and Stein, 1994)

Table 1
Results Assembled by Stage of Gestation

Periconception	First trimester	Third Trimester
Fertility	Gestation length (Prem)	Maternal weight
Organic brain defects (NTD)	Stillbirths	Birthweight (incl.2nd generation)
Schizophrenia	Obesity increased	Mortality (0-3months)
Schizoid/antisocial personality		Obesity increased

Therefore acute involuntary nutritional deprivation affects the fertility of a community very rapidly and prejudices pregnancy outcome. Recovery following refeeding is rapid but the increased incidence of fetal malformation in conception occurring after the food shortage suggests that women take several months to recover their normal reproductive competence following relief of starvation (Susser et al, 1994).

Good weight during pregnancy can improve pregnancy outcome and the effects of adequate weight gain on perinatal mortality rates in women have been demonstrated by Naeye, (1979) but it is still considered preferable for women to enter pregnancy in a state of optimal nutrition.

Bulimia nervosa: Reproductive Functions

In a study of 24 women with bulimia nervosa a variety of neuroendocrine disturbances were demonstrated which, however, were not as pronounced as in

low weight anorexia nervosa patients (Fichter et al, 1990a). However, it has become clear that approximately 50% of women with bulimia nervosa have menstrual irregularities (Stewart DC, 1992).

Endocrine abnormalities:

About 30% of women with bulimia can have amenorrhoea and 40% report menstruation disorders (Fairburn and Cooper, 1984) even though endocrine disorders are not considered part of the diagnostic criteria of bulimia nervosa. The body fat levels of women with bulimia may be decreased or within the normal range and infertility problems in these women will depend on the extent of reduction in body fat though it has been shown that normal weight bulimic women still had significantly reduced LH and FSH plasma levels. Abraham (1998) found in his study of 43 women with bulimia followed up 10-15 years after first presentation for treatment that 35 (81%) had had secondary amenorrhoea of more than 3 months duration and 26 (61%) of women had had amenorrhoea of more than 12 months duration with the range of 1-20 years.

Fichter and Pirke, (1989) state that because of the low oestradiol and progesterone plasma levels there are implications for reproductive function and fertility. However, although anovulation is common, long-term infertility is not (Ambroz, 1996).

One author found that some women with an eating disorder such as bulimia nervosa reported unplanned pregnancies because they had mistaken beliefs about fertility and eating disorders- thinking all eating disorders lead to infertility (Morgan et al, 1999).

Conversely it has been reported by a significant number of women with bulimia that their sexual interest wanes when they felt their weight was too high. At higher body weights they said they felt concerned about their fatness and feared rejection by their partner so withdrew from them and sexual activity, these feelings and fears apparently decreased with recovery.

Pregnancy and bulimia are associated with further complications. One study of pregnant bulimic women found a number of difficulties such as miscarriage,

hypertension, stillbirth, breech delivery and cleft palates (Lacey and Smith, 1987), however, this study's sample size was small (22 babies) and some women had a history of substance abuse, also hereditary factors were not included, these factors may confound the findings. Abraham, (1998) found that miscarriage is more common in women with an active eating disorder at the time of conception. Miscarriage has previously been associated with low prepregnancy weight and low maternal weight but Abraham's study found the cause of miscarriage among bulimia nervosa patients may also result from inadequate maternal weight gain, excessive exercise or purging behaviour. Greater fetal loss through miscarriage has been reported in women with bulimia nervosa (Ford et al, 1989). In addition to finding significantly more unsuccessful pregnancies (miscarriages and ectopic), Abrahams (1996) study also found more treatment for postnatal depression but did not find any evidence of increased incidence of maternal hypertension or fetal abnormalities with their bulimic patients. Bulimic women have been reported to gain a considerable amount of weight during pregnancy possibly because they gave up trying to maintain a weight below their "physiological set point" (Ramchandani and Whedon, 1988).

Peri conceptual environment and later disease

There appears to be growing evidence that what a woman eats during pregnancy and her nutritional status at conception can play an important role in determining not only the size of the infant at birth but also its susceptibility to later disease (Harding, 2001). Gluckman and Hanson (2004) state that an infant's size at birth will primarily reflect the quality of the intrauterine environment, as the genetic influence on birth size is considered small. Additionally, adverse intrauterine factors during early development can affect susceptibility to later disease even when birth size is not affected. A previously mentioned study in this area by Susser and Stein (1994) also found longer-term effects of under nutrition in utero for the surviving infants. The effects of the famine were most marked in the periconceptual period with increased incidence of congenital malformations and perinatal mortality. Gluckman and Hanson, (2004) reviewed the studies in this area and determined that disease risk (cardiovascular and metabolic function) throughout life may be significantly associated with the influential periconceptual environment. In addition, the embryonic, fetal or neonatal environment may also play a role. They conclude that there is an increasing need to facilitate the well

being and nutritional health of females of reproductive age to help in the prevention of chronic disease in future generations. Retrospective epidemiological analysis of disease factors is fraught with difficulty. Firstly to separate out what the contribution of very early life factors compared to later influences are involved in later life disease outcomes and secondly to have well documented data over long periods of time for unbiased populations. To overcome these difficulties, Gluckman and Hanson's (2004) review of the literature in this area has included experimental (mammalian species) as well as prospective clinical studies on children born small. These studies have added support for the concept that early development has a significant effect on health and disease risk.

Infertility Services and Eating Disorders

Over the past decade more attention has been paid to infertility subsequent to having an Eating Disorder (Abraham, Mira, Llewellyn-Jones, 1990; Stewart et al, 1990). Unexplained infertility in women may sometimes be due to an undisclosed eating disorder or weight control that is excessive. Van der Spuy et al, (1988) found that the commonest cause of amenorrhoea resulting in infertility in their patients was subnormal body weight, which in many cases reflects nutritional state. Bates et al, (1982) had previously found that women with unexplained infertility or menstrual dysfunction had restricted their intake of food to control weight and maintain a certain body shape. When many of these women agreed to increase their weight to the predicted ideal body weight, 73% of them conceived spontaneously and 90% resumed menstruating.

With recent advances in fertility technology, women with anorexia nervosa who are at low body weight and amenorrhoeic may now successfully conceive. Infertility specialists have found an increased prevalence of women with inadequate dietary intake and/or abnormal eating behaviours among infertility clinic patients (Allison et al, 1988; Abraham et al, 1998; Nillus, 1978; Stewart et al, 1990). This may lead to serious consequences for the health of the infant both pre-natally and post-natally. In a series of 14 women with eating problems who entered into a treatment programme for infertility - 12 became pregnant and 4 babies were small for dates; one baby died during the neonatal period (Abraham et al, 1998). Amenorrhoeic underweight women who become pregnant after

induction of ovulation are more at risk of delivering low birth weight infants than underweight women who ovulate spontaneously (Van der Spuy, 1988). He concluded that women in whom ovulation had been induced had a higher risk of babies who were small for dates (25%) and in those who were underweight the risk was greatest (54%). The guilt and secretiveness that surrounds eating disorders may contribute to under reporting of these disorders particularly when women may think their eating disorder has contributed to their infertility. The presence of eating disorders is thought to be underestimated in obstetric and gynaecological practice (Stewart et al, 1990).

Depression

High rates of postnatal and prenatal depression in bulimic women have been reported in a study of bulimic women who had an active eating disorder when pregnant (Abraham, 1998) though whether a high rate of postnatal depression in these eating disordered patients can be explained by the prior history of depression is uncertain.

Women with bulimia have been shown to be significantly more depressed than their non-eating disordered counterparts (Katzman and Wolchick, 1984; Schmidt, Hodes and Treasure, 1992; Yellowlees, 1985). Similar findings have been studied in women with anorexia nervosa (Hood et al, 1982; Jacobs and Isaacs, 1986;

Skoog et al, 1984; Strober 1983-1985; Sykes et al, 1986). Eating disordered subjects scored significantly higher on both dissociation and depression than non-eating disordered subjects, though Schumaker, Warren, Carr, Schreiber and Jackson,(1995) cautions against concluding that depression is a causal factor in these disorders. Voracious spending and shoplifting can also be often seen in bulimic women (Crisp et al, 1980; Mitchell et al, 1992) as well. Alcohol abuse is frequently seen as a co-morbid condition (Bulik et, 1992).

Many anorexia nervosa women report they first dieted in response to negative comments about their shape or weight states (Bulik et al, 1995) and Strober, (1992) noted that individuals with anorexia nervosa are hypersensitive to rejection or disapproval.

Sexual abuse

The relationship between childhood sexual abuse and eating disorders is a topic that has generated considerable research in the last couple of decades. A history of sexual abuse has been reported to be associated with eating disorder conditions two to four times more often than one would expect to see in the general population (Hall, Tice, Beresford, Woolley and Hall, 1989). Other authors also have found significant associations between childhood sexual abuse and eating disorders (Dansky, Brewerton, Kilpatrick, O'Neil, 1997; Steiger and Zanko, 1990; Wonderlich, Donaldson, Carson, 1996a).

Defining what constitutes child sexual abuse can vary among authors on the subject with "sexual victimization" rather than sexual abuse found to be increased in women with bulimia (Welch and Fairburn 1996). Similarly some authors using the term "adverse sexual experiences" in childhood found a relationship between those experiences and the subsequent development of an eating disorder - particularly being a victim of "a coercive sexual event" (Oppenheimer et al, 1985). Sexual abuse has also been found to have a strong correlation with young women who engaged in regular laxative abuse or purging to lose weight (Hibberd, 1988). Not all authors agree that there is a higher rate of child sexual abuse in women with eating disorder (Rorty et al. 1994a). Because most studies were retrospective and relied on the memories of adults who were asked to recall histories of childhood sexual abuse and eating behaviour, Wonderlich et al (2000) designed a controlled, prospective, longitudinal study on sexual abuse with children as the subjects. His study revealed that sexually abused children were more likely than controls to express weight dissatisfaction, food restriction when emotionally upset, pursuit of thin body ideals and heightened purging behaviour.

What is still unclear is why childhood sexual abuse and eating disturbances are associated. The idea that certain eating disorder symptoms may provide relief from intolerable psychological states is well substantiated (e.g., Heatherton and Baumeister, 1991). Many researchers concur that the struggle for autonomy is a primary component of disordered eating (Masterson, 1977; Minuchin, Rosman, and Baker, 1978; Sours, 1980; Stein et al, 1994). It has been proposed sexually abused children develop broad cognitive patterns of low self-esteem (Briere, 1992) that could include body dissatisfaction (Wonderlich et al, 1996a). Another

idea proposed, is that child sexual abuse results in pervasive psychobiological dysregulation, which increases the risk of eating disorders (Wonderlich et al, 1997). A prospective study (Tice, Hall, Beresford, Quinones and Hall, 1989) was carried out to try and elucidate the nature and type of the abuse and particularly its relationship to the patient's eating disorder. Of one hundred and fifty eight consecutive admissions to an eating disorder unit (average age 27 years) 50% reported they had been sexually abused and 50% of those patients reported the abuse had occurred before the age of 13. She found that eating disorder patients are almost twice as likely to be the victims of sexual abuse than are young women admitted to a psychiatric hospital with any other diagnosis.

Disclosure is often difficult and may not occur in outpatient situations where the patient lives at home with her family. It is sometimes found that disclosure does not normally occur until the later stages of therapy, or until the patient is hospitalised (Tice et al, 1989).

An uncontrolled study by Brewerton et al (1998), revealed high rates of eating disturbance in maltreated children. This was confirmed by Wonderlich et al (2000), who found both emotional and physical abuse may be significant predictors of eating disturbance, independent of their relationship to childhood sexual abuse.

In relation to these findings, Wonderlich et al (2000) recommend that that the examination of children with eating disorders should include assessment of childhood traumatic experiences. In addition there is a need to for further study and scientific inquiry to help identify causal mechanisms in the association between childhood trauma and eating disturbances.

Exercise

Many women with an eating disorder can exercise to excess. It is thought that this is because it enables the person to burn more calories (Reiff and Reiff, 1992). However this traditional view has been challenged with relentless and excessive exercising being viewed as playing a more central role in the pathogenesis of the eating disorder. A strong case has been made for excessive exercisers displaying a compulsive behaviour pattern and that exercise and starvation together act to

exacerbate the obsessional behaviour traits (Davis et al, 1995). Exercising intensively has an effect on reproductive functions in ways similar to nutritional deprivation. Menstrual disturbances in female athletes have been documented widely with reported prevalence rates ranging from 6% to 79% (Bamber, Cockerill and Carroll, 2000). Female athletes, gymnasts and ballet dancers have been shown to have a delayed menarche and a high incidence of menstrual irregularities including amenorrhoea (Baker, 1981; Frisch et al, 1983; Malina, 1983).

There is increasing evidence that the underlying mechanism of “exercise amenorrhoea” is the same as in other nutritional causes of reproductive failure—namely body fat composition. Athletes who develop menstrual disturbances have a lower initial body weight, a greater weight loss and, more importantly, a lower percentage of body fat than normal controls (Dale et al 1979; Speroff and Redwine, 1980; Wentz, 1980). Van der Spuy, (1988) believes these very fit women present with the same reproductive dysfunction as those women with dietary amenorrhoea, and have just another manifestation of nutritional manipulation. In fact the obsession with performance and weight control necessary for success is reminiscent of the behaviour patterns of the true anorectic (Halmi, Sunday, Strober, Kaplan, Woodside, Fichter, Treasure, Berrettini, and Kaye, 2000).

One of the diagnostic criteria of the DSM-IV for bulimia (American Psychiatric Association, 1994) is “vigorous exercise to prevent weight gain” and can also present along with anorexia nervosa (Beaumont, Arthur, Russell and Touez, 1994). Excessive exercise is now more recognised and is referred to as “exercise addiction”, “exercise dependence”, “compulsive exercise” or “obligatory exercise” (Pasman and Thompson, 1988). The continuation of exercise in the face of physical injury such as strains, sprains, pain and stress fractures is considered a classic sign of exercise dependence (Reiff and Reiff, 1992) and has been noted in an early study by Bakeland, (1970) who found an extreme unwillingness in some individuals to quit exercising, even briefly, when they were injured. He also stated that it was difficult to recruit exercising subjects who were willing to stop running for a month “for any amount of money”. Obligatory exercisers are athletes whose commitment to their routines are excessive and are found among

athletes participating in sports where leanness is emphasized such as runners, weightlifters, bodybuilders, gymnasts, wrestlers and dancers (Mond et al, 2004; Draeger, 2005). The word excessive is difficult to define and more emphasis has been focused recently on the motivation for exercising to determine whether there exists a true pathology. Mond, Hay, Rodgers, Owen, and Beaumont,(2004) state that exercising to improve physical appearance or body tone and feeling guilty following postponement of exercise are the variables most strongly associated with elevated levels of eating disturbance and reduced quality of life. Exercising to improve health, fitness or mood or to lose weight was not associated with eating disturbance. Previously, Ackard, Brehm, and Steffen (2002) had also found that it is the negative emotionality or guilt associated with exercise rather than the amount of exercise that is done, which has the strongest association with eating disorders. A recent study by Pinkston, Martz, Domer, Curtin, Bazzini, Smith and Henson (2001) found that women with anorexia nervosa (or sub clinical versions) reported more compulsive exercising attitudes but the actual amount of exercise undertaken per week was similar to control subjects. Other authors have suggested that obligatory exercisers may reduce the risk of clinical eating disorders (Weight and Noakes, 1987) or that exercise may preempt the use of more extreme weight control measures (Hubbard as cited in Mond et al, 2004).

Mothers who have had an eating disorder and their children

In the field of eating disorders much of the focus has been on ascertaining the etiology, prevalence and impact these eating disorders have on adolescent women and their families of origin (Woodside and Shekter-Wolfson, 1990). However in the last decade there has been more focus on the life-long effects of eating disorder pathology particularly its effects on the offspring, including the eating disordered patient's attitudes towards their children's body sizes and eating habits (Patel P., Wheatcroft R., Park R. and Stein A., 2002).

Studies investigating pregnancy have noted that in a majority of cases where women had an active eating disorder prior to pregnancy the woman will manage to acquire recommended weight gain and temporarily change their eating habits with renewed commitment to healthy eating (Feingold, Lyons, Chaudbury, Costigan, and Cetrulo, 1988; Mitchell et al, 1991; Namir et al, 1986; Rand et al, 1987; Stewart et al, 1987; Treasure and Russell, 1988;). However these same

researchers have noted that the gains made can be short-lived and once the baby is born the anorexic and bulimic behaviours can return. It became evident to some clinicians that some former patients who had remained symptom-free over a prolonged period before pregnancy decompensated either acutely or under the chronic strain of their role as mother and reacted with renewed symptoms of anorexia or bulimia (Franzen and Gerlinghoff, 1997).

The postpartum period represents a vulnerable time for the onset and exacerbation of eating disorder behaviours in both community and clinical samples but any difficulties are far from invariable (Park, Senior and Stein, 2003).

Difficulties in securing a mother's cooperation to participate in studies on eating disorder

It should be noted that there are difficulties associated with securing a mother's cooperation in studying her relationship to her child/children particularly if the mother has not acknowledged her eating disorder or is in any way intimidated by the medical profession and/or feels her ability to parent is being questioned or even more fearful if she believes there is a chance she may lose her children into care. It could be argued that only mothers who are at ease with the above criteria willingly allow their children and themselves to be put under the intense scrutiny needed for the empirical study of eating disorder and offspring. Russell, Treasure and Eisler (1998), Lunt, Carosella and Yager, (1989) and van Wezel-Meijler and Wit (1989) have all commented on the difficulties in securing the cooperation of the mothers and how they may participate initially but may withdraw from a study if concerns are raised about their children's weight, height or eating habits.

Body satisfaction and perception of size

Evidence shows that in the non-clinical populations a strong correlation exists between the degree of dietary restraint in girls aged 10 years and their mother's dieting behaviour (Hill, Weaver and Bindell, 1990). A similar relationship is thought to exist between a mother's comfort with her own body and sexuality on the one hand and the development of her daughter's body image and eating attitudes on the other (Attie and Brookes-Gunn, 1987). Because eating disordered women typically manifest distorted perceptions of their bodies by over-estimating their body size (Fichter et al, 1986, Garfinkel, 1992; Sunday, Halmi, Werdann,

and Levey, 1992) it can be seen that their children are likely to adopt a similar perception of their bodies and this could be reinforced if the mother has also a distorted perception of her child's size.

Conversely, a study by Evans and Le Grange, 1995, showed that mothers with a current or past eating disorder do not have a distorted perception of their child's size. With body size estimation the clinical group displayed normal attitudes towards their bodies. Stein, Murray, Cooper and Fairburn, 1996 also found little evidence that mothers with eating disorder preferred smaller children or were dissatisfied with their children's shape or that they misperceived their children's size. In fact they were more likely than a control group to accurately assess their child's weight and size.

With the task of parenting and child-development the studies to date have been quite varied. Brinch, Isager and Tolstrup (1988) were one of the first to conduct an investigation into the mothering behaviour of 50 Danish women who had previously been treated by them for anorexia nervosa. They reported that their subjects were managing adequately with the task of parenting and they breastfed their children for the same length of time as other women did and that their children's development was in line with a background population. But more recent research indicates otherwise, in that mothers with an eating disorder experience a substantial degree of tension in their relationships with their children (Fahy and Treasure 1989; Stein et al, 1993; Woodside and Shekter-Wolfson 1990). The differences cited between Brinch's and later studies may be due to the fact many of the women in Brinch's study were said to be recovered (36/50) and the time since recovery was an average of 12 years. Many of the later studies appear to use women who either still have an active eating disorder or who are "in remission." This may mean they have not really recovered completely but simply gained sufficient weight to be within 15% of the normal weight range for their height. To compare studies such as these and many others it would be useful to have their working definition of recovery. However, despite noting tensions and other difficulties, the mothers were said nevertheless to display high levels of commitment to their children and expressed the desire to instill healthy eating habits among them (Evans and le Grande, 1994).

The influence of the maternal eating disorder on the child development can be considered chronologically

- i) Genetic influences
- ii) Pregnancy
- iii) Breastfeeding and the post-partum period
- iv) Infancy and early childhood
- v) Later childhood

Genetic and familial influences

Eating disorders are known to run in families. Several large studies have reported a 7-to 12 fold increase in the prevalence of anorexia and bulimia in first-degree relatives of individuals with an eating disorder than in relatives of controls (Kendler, McLean, Neale, Kessler, Heath and Eaves, 1991; Lilenfield et al, 1998, Strober M., Freeman R., Lampert C., Diamond J., Kaye W., 2000). Studies such as these, have determined there may be a common familial vulnerability for anorexia nervosa and bulimia nervosa, which extends to milder eating disorder phenotypes. Early twin studies found that the rates of anorexia nervosa were much higher (56% versus 5%) in monozygotic than dizygotic twins (Park, R., Senior, R. and Stein A, 2003). Some of the earliest studies put the rate of variance in liability accounted for by genetic factors as up to 80%, more recent studies using larger samples found the variance in anorexia nervosa due to additive genetic factors as closer to 58% (Bulik et al, 2000). Bulimia nervosa has also been studied with twin populations and it was found a reasonable proportion of the familiarity of bulimia nervosa is due to the additive genetic effects but the exact nature of the genetic and environmental factors remains to be determined (Park et al, 2003).

Other types of eating disorders involving body dissatisfaction, eating and weight concerns and behaviours such as binge eating and vomiting can also be at least partially accounted for by genetic factors (Kendler et al, 1991; Klump, Kaye, and Strober, 2001a, and Klump, Millar, Keel, McGue and Iacono, 2001b; Rutherford, McGuffin , Katz and Murray, 1993; Wade, Martin, Neale, Tiggemann, Treloar, Bucholz, Madden, and Heath, 1999a, Wade, Martin and Tiggemann, 1998). One of the more recent suggestions indicated by the results of work by Klump et al, (2001a) has been that that there may be potential pubertal activation of heritability

of eating abnormalities, which may be mediated by ovarian hormones. This work may indicate that the use of screening measures for prepubertal girls for potential eating disorders and educational programmes for young girls may be of less value in prevention than first thought. While genetic studies have indicated strongly that there are genetic factors involved in the development of eating disorders it has also indicated the considerable influence accounted for by environmental factors and also the gene-environment interactions, which are yet to be explored.

Breastfeeding and the postpartum period

Women's attitudes towards their bodies can predict breastfeeding intention. Those with high body and weight concerns were found to be less likely to breastfeed their infants and this was further associated with low fetal attachment status during pregnancy (Foster, Slade and Wilson, 1996). Similarly, studies on women with bulimia found many had difficulties with breastfeeding, they said it was distasteful or that it adversely affected their appearance and as a result gave up within five weeks (Stein and Fairburn, 1989). Others stopped due to insufficient milk thought to be due to the fact they were following a very low kilojoule diet (Stein and Fairburn, 1989, Hodes et al, 1997). Only a small percentage of women with eating disorders are said to find breastfeeding an enjoyable experience (Hodes et al, 1997) but how this compares with other groups of women is not known.

However, this is in contrast to what Brinch et al, (1988) found in a follow-up study on reproduction and mothering of women with anorexia nervosa. The women in his study had a positive attitude to breastfeeding before the delivery. Eighty four percent (36) of the 43 mothers (for whom they had information) had breastfed their infants and the reasons given for not breastfeeding or weaning the baby within the first month of life was typically "too little milk" or "no milk" or mastitis, only one mother mentioned "physical reasons" and one stated that she did not like breastfeeding. Thirty six of the 50 mothers in this study were said to be recovered when they conceived and delivered their children. Given the length of time that had elapsed since hospital contact with these women (4 - 22 years) it is probable that many not only had recovered with respect to weight but also may have normalised food related behaviours and attitudes. A more recent study was conducted in Canterbury, New Zealand by Waugh and Bulik (1999) among

mothers with a previously diagnosed anorexia nervosa or bulimia nervosa (10) and a control group (10). They found two “case mothers” chose not to breastfeed prior to the birth of their child, with the reasons given as embarrassment and depression. At six weeks, two more case mothers had ceased breastfeeding due to insufficient milk or embarrassment. In contrast, all control mothers went on to successfully breastfeed until at least 12 months or until the baby was fully weaned. It is of note that 2 case mothers perceived breastfeeding as embarrassing and used formula for that reason alone (Waugh and Bulik, 1999). Women with eating disorders are known to have a heightened sense of self-awareness and self-consciousness of their bodies (Heatherton and Baumeister, 1991). This embarrassment in a country where the practice of breastfeeding is widely promoted may be due to this self-consciousness about their body. The authors of the study suggest that particular support may be necessary for the patient with a past or current eating disorder to assist her with the thoughts and feelings associated with breast-feeding. This study appears to be sampling women’s behaviours at different stages of recovery to Brinch’s study. Most of the women in Brinch’s study were recovered (36 of the 43 women they had information on) and in the N.Z. study most of the women were still symptomatic (6/10) or actively bulimic during the pregnancy (4/10). In addition, there is a time factor involved, with Brinch’s study being conducted 4 - 22 (average of 12) years after treatment for the eating disorder whereas the N.Z. study appears to have been done 0-4 years after diagnosis. These factors would appear to suggest the case study women in Waugh and Bulik’s study were not comparable to the women in Brinch’s study in terms of recovery.

Feeding and Mealtimes

Feeding is one of the critical early tasks of parenting and one of the most important avenues of communication between mother and child (Patel et al, 2002) therefore it is important to explore the effects a previous or ongoing eating disorder in the mother may have on the child. The studies available suggest there is reason to be concerned about the quality of parenting and risks to the children. One of the most commonly cited risks is that the child may have low birth weight and maintain this through childhood through underfeeding. Lacey and Smith, (1987) reported that 15% of mothers who had been bulimic were attempting to slim their babies within the first year of life. It is thought that underweight

mothers with anorexia nervosa rather than mothers with bulimia are more likely to display undue concern about their children's shape and to severely underfeed the child (Lacey and Smith, 1987). Another study of bulimic mothers also confirmed they did not appear to have any undue concern about their children's shape or weight and all the children appeared to be developing normally (Fahy and Treasure, 1989). However they did find considerable tension in the mother – child relationship due to conflict between the demands of childrearing and the bulimic disorder. They concluded that disturbed eating habits and attitudes can and do interfere with the mother's parenting.

Stein and Fairburn, (1989) found similarly, however they went further to find the mothers' over concern with shape and weight militated against breastfeeding and affected how the children were fed. Mothers with anorexia or bulimia have been found to regard their children as good feeders despite a surprising number of the children (particularly girls) being underweight and the mothers rarely had any concerns about giving their children too little food. The abnormalities of growth or weight can vary according to what disorder the mother has - it is more likely that the children will be underweight if the mother has anorexia and be overweight if the mother is bulimic (Hodes et al, 1997).

In a five year prospective study, Agras et al, (1999) found a gender specificity with the female infants of mothers with eating disorders sucking faster and solids being introduced later, this gender specificity had been commented on previously by Van Wezel-Meijler (1989) who proposed that the gender identification is stronger between a mother and her daughter than mother-son, however this had not been identified elsewhere (Stein et al, 1994).

Conflict over meals

It has been repeatedly demonstrated that only children with feeding disorders (as compared to children with behaviour disorders and controls) had mothers with significantly disturbed eating habits and attitudes as measured by eating disorder questionnaires or a current or past eating disorder using DSM-IV (Whelan and Cooper 2000; Stein et al, 1995). In fact, any dysfunctional focus on weight, shape and food – not limited to a clinical eating disorder can be enough to correlate with having children with non-organic failure to thrive (McCann et al, cited in

McNicholas, 1996). They say these mothers may be consciously restricting their own intake of food to reduce their shape or weight and subconsciously restricting their child's intake of sweet food or food they thought was "fattening" or "unhealthy."

A connection between maternal management style and subsequent food fussiness has been found in mothers with eating disorder (Stein, Woolley, Cooper and Fairburn, 1994). The earlier the mother used behavioural techniques to control the child's eating, the more likely the child was to develop anorexia or bulimia nervosa at a later stage. This power struggle between the mother and child over food is believed to set the stage for the development of eating disorders (Machan and Waller, 1993; Strober, 1992; Waller, Calam and Slade, 1989; Bruch, 1973). Autonomy is very important in both childhood and adult eating problems (Williams, Chamove and Millar, 1990). It has been argued that, in children with feeding problems, the child's struggle for the expression of autonomy overrides the need to eat (Chatoor, Egan, Getson, Menvielle, O'Donnell, 1987). Children of mothers who are more controlling of their child's food intake show less ability to self-regulate energy intake (Johnson and Birch 1994). However, others state, anorexia nervosa is "quite unrelated to the feeding disorders of childhood" (Crisp et al, cited in Whitehouse and Harris, 1998). The maternal eating disorder symptoms such as maternal disinhibition, hunger, body dissatisfaction, bulimic symptoms and maternal body mass index predicted the emergence of secretive eating in children, while maternal restraint and drive for thinness and infant's body mass index predicted the emergence of overeating (Stice et al, 1999). The term "infantile anorexia" has been used by some authors to represent the food refusal or extreme food selectivity that can happen as a result of some early mother-child interactions over food. The mothers of the infants displaying this, showed less dyadic reciprocity, less maternal reciprocity, more dyadic conflict and more struggle for control. They were more inconsistent and expressed more negative affect, as did their children (Chatoor et al, 1988). Their study found the infant's behaviour resulted in inadequate food intake and growth failure and was associated with intense parental involvement, anxiety and frustration. Other authors agree that different experiences of feeding and mealtimes influence the development of feeding and eating difficulties with up to 50% of children with mothers who have eating disorders also having problems with food, eating or

weight or probable psychiatric disorders (Hodes et al 1996, Wright, 1987). Many of these children may continue with disordered eating throughout their adult life (Wright 1987). Stein et al, (1994) videotaped mothers' behaviour whilst they interacted with their children during mealtimes and play. Mothers with eating disorders were more intrusive, during feeding but not during play, and there was significantly more negatively expressed emotion between eating disordered parents and their children than in the controls (Stein et al, 1994). Additionally, they found that mothers with eating disorders tend to be less responsive to the cues regarding eating from their children. This was confirmed in a New Zealand study (Waugh and Bulik, 1999), of mothers with past or current eating disorders. They found that there was a lack of positive comments during meals and that a large percentage of the mothers didn't eat with the child at mealtimes. It is thought that this detachment and non-interactive mealtimes may hinder the development of healthy eating environment for their children so that they can grow up with positive attitudes towards eating and food (Waugh and Bulik, 1999). They noted however, that there were no major differences in nutritional value between the case children's diets and the control children's diets. Stein et al, (1996) state that their 1994 study will have implications for intervention, by teaching parents how to respond appropriately to their infant's signals, allowing them to self feed and putting aside concerns about mess. Promising results have been obtained in increasing the mother's recognition of clues from her infant and in reducing the amount of conflict. This involves helping the mothers to recognize and respond to infant signals and their infants need for autonomy during mealtimes, as well as help with dealing with common flashpoints such as infant self-feeding, mess and food refusal (Stein, Woolley, and McPherson, 1999).

It is likely that eating dysfunction in children can be specifically linked to disturbed eating habits and attitudes among their mothers. This suggests maternal eating psychopathology may play a significant role in the development of children's feeding disorders. Aspects of maternal behaviour may lead children to think of eating as something that should be done covertly or some children may have learnt these eating behaviours through modeling processes. If maternal eating behaviour is associated with child feeding/eating problems, then this may be a portent of a later eating disorder in the child (Jacobs and Isaacs, 1986; Marchi and Cohen, 1990). A third of children with mothers with clinical anorexia have

abnormally low weight/growth (Timimi and Robinson, 1996; Hodes et al, 1997). Despite this, they said the mothers appeared to show low levels of concern about their children's weight and rarely expressed concerns about giving their children too little food despite their children being underweight (Patel et al, 2002). There is also some evidence that there is a gender influence with girls of mothers with eating disorders tending to be at greater risk of being underweight (Hodes et al, 1997) as well as mothers with eating disorders showing higher concern about their daughter's weight than mothers with no eating disorder, from as early as two years of age (Agras et al, 1999).

It is important to note that case series reports tend to focus on extreme samples of mothers with eating disorders and caution is required in generalizing to all cases (Patel et al, 2002).

General Parenting Function and Family conflict

A number of studies have indicated that eating disorder psychopathology can negatively affect general parenting function. Many eating disordered mothers reported serious parenting difficulties, and were motivated to engage in therapy by fears for the health of their children and because of their feelings of inadequacy as parents (Franzen and Gerlinghoff, 1997). Children of mothers with an eating disorder were reported to show more negative affect such as sadness, crying and irritability (Agras S, Hammer L. and McNicholas F, 1999). It has been previously shown that the mothers with eating disorder were more verbally controlling and intrusive with their one-year-old infants during play as well as mealtimes (Stein et al, 1994). It is also known that some women, who had remained symptom-free over a prolonged period prior, and during pregnancy, can decompensate either acutely or under the chronic strain of their role as mother and reacted with renewed symptoms of anorexia or bulimia (Hodes et al, 1997).

The mechanisms involved in the increased risk these children have for difficulties are multi faceted and as yet not fully understood. The family as a whole may have a high level of discord with high levels of marital conflict and separation (Patel et al, 2002). The children may become involved in their parent's illness (Griffith Beaumont, Beaumont, Touyz, Williams and Lowinger, 1995; Bruch, 1982). Russell et al, (1998) in attempting to analyse the mechanisms whereby the

anorexic mother's illness affects the child's development described the mothers in their study as generally concerned for their children. They had no intention of abusing them but feared that their children might become fat. Some authors suggest help in the feeding of the children, should be sought from other relatives particularly grandparents (Franzen and Gerlinghoff, 1997).

Weight and shape concerns in children

There is a large body of evidence that suggests parental attitudes to weight and shape have a greater influence on shaping children's views than previously thought (Patel et al, 2002). It was previously thought, that young children had no concerns about weight and shape because these concerns were thought to result from changes due to the onset of puberty and adolescence (Patel et al, 2002). However, in a recent study of nine year olds, it was found that the desire for thinness and motivation to diet was evident in some children of all weights and this pattern was more apparent for girls rather than boys (Hill et al, 1994). There was a high level of dietary restraint in a significant proportion of girls aged 9-10 years (Hill et al, 1992) and there was a significant relationship between dieting concerns of these girls and their mothers (Hill et al, 1990). Persistent, critical parental comments and modeling of weight concerns are thought to contribute to children's problems by emphasizing thinness and dieting as ways to a "desirable body" (Haworth-Hoepfner, 2000). Other authors endorse this finding that direct comments about the child's weight was the most consistent correlate of the child's weight and shape concerns and that maternal rather than paternal comments were a more powerful influence for daughters than sons (Smolak, Levine and Schermer, 1999). In a similar vein, other authors found that mothers whose daughters' eating was disordered had more eating problems themselves and thought their daughters should lose more weight than the mothers of girls who were not eating disordered (Pike and Rhodin, 1991). It has been similarly reported that mothers of daughters with bulimia nervosa were more likely to perceive their daughters as overweight and encouraged dieting and exercise than controls (Moreno and Thelan, 1993). However, others think the development of eating disorders in adolescent girls is due more to the influence of fat gain in puberty and sociocultural influences rather than their mothers' attitudes and behaviours (Attie and Brookes-Gunn, 1989; Sanftner et al, 1996) with teenagers becoming increasingly aware of societal pressures regarding their body and societal

expectations to attain a slender body shape. In a large study of health concerns of Californian teenagers (Evans et al, 1995), weight control was found to be the most important concern. As girls tend to accumulate fat during puberty (on average 11 kilos), this is when, the first attempts to diet and lose weight occur. It is probable that both, societal pressures and the influence of the family have a role to play in the development of an eating disorder.

Summary of parent child transmission of eating disorder

Several broad categories of mechanisms underlying transmission of eating disorder disturbance from parent to child have been discerned (Patel et al, 2002). There is evidence for genetic influences; however research remains inconclusive regarding the extent and nature of the genetic influences and the precise elements that are being inherited. It is likely that the gene-environment interactions will be important, but these remain to be elucidated. The direct effect of parental eating psychopathology can impinge specifically on parenting, for example by withholding food from their children as they do for themselves (most evident in mothers with anorexia nervosa, Russell et al, (1998)). There is thought to be an indirect influence on eating dysfunction through the disturbance of general parenting functioning, with discordant marital relationships. Preoccupation with food, body shape and weight can interfere with sensitive responsiveness to the child. Mothers may get into conflict with their infants over mealtimes, which influence their children's development, food intake, and the children's perception of the enjoyability of mealtimes. Parents may act as poor role models for children in relation to eating behaviours and attitudes either through dieting or their own eating behaviours. They may comment adversely and persistently on their children's weight or body shape (Smolak et al, 1999; Haworth-Hoepfner, 2000). As well there may also be powerful societal pressures, which combine in such a way to lead vulnerable adolescents to develop an eating disorder.

Summary of Literature Review

Having gained an overview on the research carried out in the last 35 years on eating disorders I noted that some of the conflicting results of studies of women with eating disorders and their children can occur because of our understanding and differing interpretations of the nature of recovery. For some women weight recovery can occur within a relatively short period of time after the eating disorder

begins (months), however attitudes and anxiety about their body shape and food related behaviours could continue for many more years. There appeared to be many studies of women with active or marginal recovery from eating disorders, which showed a negative impact on them and their children. There was less focus on the women who had made significant recoveries. This would be helpful firstly, to understand what was critical to their recovery and then, how they were able to use the eating disorder experience to positively change not only their own behaviours and attitudes towards body shape, weight and food but also to bring their children up without dysfunction in this area. In the process of doing the interviews for my small study I noted that several of the index women had made remarkable recoveries and in the process of recovery had manage to take an integrative approach of using what they had learnt about themselves from having an eating disorder to influence their own and their children's lives in a very positive way. There appeared to be an absence of research in the area of recovery and how it can be enhanced and integrated into a person's life long-term.

In chapter three, the research design and methodology are described.

Chapter Three

Research Design, Methodology and Analysis

This chapter describes the rationale for the chosen research design. The appropriateness of Grounded Theory for the purposes of this study is discussed first and then the methodology of Grounded Theory. The specific processes of data analysis and theoretical sampling are outlined, as well as the trustworthiness of the study. The chapter concludes with an explanation of how my data was analysed within the Grounded Theory framework and how the criteria used to evaluate credibility were addressed in relation to this study.

Research design: Grounded Theory

Grounded Theory is concerned with inner perspectives and is context sensitive looking at individual's special situations (Glaser, 1994) so is appropriate for studying eating disorders which originate in the feelings and emotions a woman has about her body and how she perceives whether she measures up with an external marker not necessarily set by her. The other aspect of Grounded Theory that lends itself to this study is that it is flexible, changing as the understanding of the phenomena under inquiry progresses and changes (Glaser and Strauss, 1967). I therefore had the ability to modify aspects of the research as it proceeded. This flexibility allowed me to pursue other lines of inquiry that I had not expected, nor had read any material previously on but which came to light early in the interviewing of the first few women. This flexibility is necessary particularly when there is limited information available around the research topic and gives a wider berth for theory generation.

Grounded Theory is considered one of the most influential general strategies (Glaser, 1998) for conducting qualitative data analysis, though, how the approach is followed varies from study to study. Later work by Strauss and Corbin, (1990) appear to allow more latitude here than Glaser does. Strauss (1987) emphasises that all the suggested methods in Grounded Theory are to be regarded as *guidelines* only, to be adapted to the specific research setting and aims and to the specific nature of the data. They should not be regarded as fixed rules, which would constrain creativity and insight, two vitally important processes to developing a sensitive interpretation of the data (Glaser and Strauss, 1967).

(N.B For the purposes of this study I aligned my interpretation more with Glaser's than Strauss's delineation of the method they had both discovered in the sixties.) Glaser, (1998), says Grounded Theory is a general method that works well on qualitative data; it can also be used on quantitative data or in any combinations of both. With the Grounded Theory approach there is interplay between the collection and analysis of data (Glaser and Strauss, 1967). This means that analysis starts immediately after some of the data has been collected and the implications of that analysis then shape the next steps in the data collection process. This process is called "constant comparative analysis" (Glaser, 1998). So while Grounded Theory is a strategy of analysis, it is also a strategy for the collection of data as well (Bryman, 1994). Many of its core processes, such as coding, memos, and the idea of allowing theoretical ideas to emerge out of one's data, have been influential with computer assisted qualitative data analysis which indirectly promotes all of these processes because software programmes have often been written with Grounded Theory in mind (Bryman, 1994). Another reason for adopting a qualitative approach using Grounded Theory is that the researcher's personal experience and insight are considered important, both in terms of understanding the phenomena under study and also in terms of being a valuable source of information (Glaser, 1998).

Because Grounded Theory generates concepts that are intricately enmeshed in the data supplied by the participants it can acknowledge the emotions caught up in the data and use them to develop the core theory (Glaser, 1998). In addition, Grounded Theory recognises the researcher's own experiences as a valuable resource (Charmaz, 1990, Glaser, 1998). This acknowledgement of the benefits of experiential data enabled me to draw on the experiences I had of eating disorders within my own extended family. This experiential data that I had gained growing up with someone who had an eating disorder gives added theoretical sensitivity as well as providing me with a base knowledge from which to make comparisons, find variations and sample theoretically. Glaser says a prime motivation for considering a Grounded Theory project is to study a substantive area that bears on a deep, abiding life cycle interest (Glaser B, 1998). Studying one's own problem area provides continued energy to collect the data, analyse it, code it, write memos etc. He states that this source of motivation is "almost"

required (Glaser B, 1998).

I believe using a Grounded Theory methodology was suited to this study as I approached this with the intention of gaining an understanding of how women viewed their eating disorder with the hindsight and wisdom of time to percolate their experiences and reevaluate them in the light of their present understanding of themselves, their bodies and their children. Most of the women were in their late thirties or forties and this is often the time when people can be more willing to discuss events in their younger years that helped shape them.

What is Grounded Theory Methodology?

The specific processes involved in Grounded Theory will be outlined here as well as an elaboration of how these methods were used in my study later in this chapter.

Grounded Theory is a general methodology for developing theory that is *grounded* in data, which has been systematically gathered and analysed. Theory evolves during the actual research and it does this through interplay between analysis and data collection (Strauss and Corbin, 1990). A Grounded Theory is one, which is generated inductively from the study of the phenomenon that the theory aims to represent (Strauss and Corbin, 1990). The theory is generated from the data, and thus the theory is grounded in the data. Generating a theory from the data means that most hypotheses and concepts are not only derived from the data, but they are also systematically worked out in relation to the data during the course of analysis by a process of constant comparison (Glaser and Strauss, 1967). The overall aim of Grounded Theory is to generate a theory that accounts for a pattern of experience, which is relevant for those involved. The generation of this theory evolves around the discovery of a “core category” (Strauss, 1987). Glaser (1978) also refers to the core category as a Basic Social Process (BSP) with processing referred to as “getting something done which takes time or something happening over time” (pp74-75).

Sources of Data

With Grounded Theory data can come from a variety of sources, interview, field observation or documents. Interviews are often the main source of the data and can enable the researcher to understand the context and perspectives from the participant's point of view.

Coding

Grounded Theory analysis usually begins with a process called "open coding" which involves breaking down the data. This involved going through each transcript, paragraph-by-paragraph, line-by-line, in order to identify the concepts and categories (Strauss, 1987). Glaser (1992) says questions should constantly be asked of the data "What category or property of a category does this incident indicate?" (pg 39) Coding in qualitative data analysis tends to be in a constant state of potential revision and fluidity. The data are treated as potential indicators of concepts and the indicators are constantly compared to see which concepts they best fit with (Bryman, 1994). As analysis develops, groups of data are grouped into categories (roughly equivalent to themes or variables) and their properties (sub-categories). Properties are attributes or characteristics pertaining to a category (Dick, 2005).

Memoing

As coding proceeds, memos too are written to remind oneself of certain ideas about the data, as Glaser (1998) says of memos "the goal is to capture meanings and ideas for one's growing theory at the moment they occur." These memos are not to be formalised or presented for evaluation but are a private and intuitive processing of thoughts on the issue at hand (Glaser, 1998).

There are two fundamental analytical commitments that shape Grounded Theory and clearly differentiate it from content analysis or thematic analysis and these are the use of constant comparison and theoretical sampling (Pidgeon, 1996).

Constant comparative analysis

The method of constant comparison is the principal analytical task. Every piece of data is compared with every other piece (Stern, 1980). Constant comparative analysis allows comparison of interview (or other data) to interview (or other

data) (Dick, 2005) and as the theory emerges (which can happen quite quickly) you then start comparing data to theory; this prompts the collection of further data through theoretical sampling. New cases are selected for their potential to further extend or broaden the researcher's understanding of the theory that may be emerging (Pidgeon, 1996). This constant comparison of the incidents very soon starts to generate theoretical properties of the category (Glaser and Strauss, 1967). To continually compare each incident to incidents and categories generates meaningful properties of categories and constant comparison gives a rich yield of concepts and the relationships between them (Glaser, 1998). Glaser and Strauss, (1967) suggest that after coding for a category three or four times, one should stop coding and record a memo regarding your ideas on it. As coding continues, the constant comparison changes from incident to incident with properties of the category that resulted from initial comparisons of incidents. Comparison of the next incidents of a category to its properties will eventually lead to major modifications becoming fewer and fewer- the theory solidifies (Glaser, 1994). There are found to be uniformities in the original set of categories or their properties and the theory is formulated with a smaller set of higher-level concepts, this is reduction (Stern, 1980). As the theory grows and becomes reduced, the original list of categories for collecting and coding the data is cut down, according to the present boundaries of the theory. In turn, the consideration, coding and analyzing of incidents becomes more select and focused so that more time is devoted to the constant comparison of incidents clearly applicable to this smaller set of categories (Glaser and Strauss, 1967).

Theoretical sampling

Grounded Theory requires the use of theoretical sampling which is the active sampling of new cases as the analysis proceeds. While Grounded Theory is considered an inductive method of generating theory, Glaser says, in "Doing Grounded Theory" (1998) that using theoretical sampling is "the carefully grounded deduction from an inducted category or hypotheses of where to go next for data to compare...to induce further a growing theory" (pg 43). There is no compunction to sample multiple cases (as with random sampling in experimental and survey research) where this would not extend or modify the emerging theory (Pidgeon, 1996).

Core category or Basic social process

The core category or BSP is one that emerges as central to the research being undertaken, and is a predominant pattern of behaviour which is linked to all the other categories and their properties in the theory and appears to be how the participants resolve their main issue (Glaser, 1998). The core category should have clear implications for a more general theory (Strauss 1987).

Theory Saturation

After coding incidents for a certain category a number of times it is found that no further properties or aspects are uncovered for that particular category. This is when that category has been “saturated” (Glaser, 1998).

Trustworthiness and Reliability

Stiles (1990) says

“The core question in assessing reliability is whether the measures are trustworthy. In a linear model research, this question reduces to correlation coefficients. In qualitative research, where the data are often verbal reports or descriptions, reliability asks, do different participants say the same thing, does one participant give consistent answers to questions worded different ways, does a participant tell the same story on different occasions.”(pg 27)

Grounded Theory has its own sources of rigour, which are, just as stringent as other types of research methodologies (Glaser, 1998). With this method, interpretations are all rigorously induced from data and are constantly checked by the constant comparative method. There is a continuing search for evidence, which disconfirms the emerging theory (verification). It is driven by the data in such a way that the final shape of the theory is likely to provide a good fit to the situation. Any biases the researcher may have, are considered controlled by the processes involved in doing Grounded Theory, that is, data collection, coding, memoing and constant comparison. As Glaser, (1998) believes honest researchers can easily control bias, as just one more variable. Any distortions that their bias brings to the data will be noticed during the use of the constant comparative methodology and as the category patterns out, their bias gets transcended.

Glaser (1998) suggests that the two main criteria for judging the adequacy of the emerging theory are—that it fits the situation and that it works (it helps the people in the situation make sense of their experience and to manage the situation better). Fit is considered one of the criteria for validity and means that the resulting concepts represent the data and is the result generalisable, robust and replicable (Stiles, 1990). This criterion of “fittingness” was considered met by the close adherence to the methodology of Grounded Theory. Because this methodology generates concepts directly from the data and with constant comparisons showing a pattern emerging, then, as the pattern gels, a good fit is ensured (Glaser, 1998). Credibility is another facet of validity and can be achieved when the participants agree that the findings are a true representation of their situation.

My Methodology

For this study I interviewed ten women as my index group. These were women who said they had experienced an eating disorder and I also interviewed eight reference women who said they had never had an eating disorder. In this section, the data collection and data analysis methods of Grounded Theory that I used in this research will be outlined as well as ethical considerations and measures I took to ensure trustworthiness.

Ethical Issues

This study was conducted in accordance with the ethical outlines of the Health Research Council (HRC). The study was reviewed and approved by the Massey Ethics Committee in December 2003. All participants were provided with an information sheet (refer appendix 3) outlining the full nature and purpose of the study and what could be expected if they took part. Consent forms (refer appendix 3) were signed prior to the interviews. Participants were informed both verbally and in writing that their participation was voluntary and they were reminded of this at the commencement of the interview and they could choose to have the interview taped or not. The strictest confidentiality was assured and maintained. Reporting of all results was done with the use of pseudonyms and all tapes and transcripts are to remain secure at Massey University for 5 years in a locked safe before being destroyed.

Transcription

Tapes were transcribed by the secretary of the Institute of Food, Nutrition and Human Health at Massey University. The secretary had signed a confidentiality agreement. I transcribed one tape as it was of poor quality due to being done via speakerphone and the secretary had difficulty understanding some of the words whereas I remembered what the woman had said making it easier for me to transcribe. I realise now that using a tape recorder to record the interview is not recommended by Glaser (1998, *Doing Grounded Theory*) because “taping gives the researcher slow data collection and too much unnecessary data instead of delimiting it” (pg 109). However, as Dick (1995) says, for thesis purposes it would be difficult to not tape-record the interviews. He advises (for thesis purposes) to take keyword notes during an interview as well as tape recording, which I did.

Accessing participants

The women in this study all resided in New Zealand; however two were in the process of relocating overseas at the time. The selection criteria required the women involved in my index group (previous eating disorder) to

- Be over 20 years old.
- Have had an Eating Disorder (self reported or diagnosed by a health professional).
- Be currently well.
- Have recovered from the Eating Disorder (be within 15% of normal weight range if anorexic or if bulimic no longer engaging in activities such as vomiting or purging) prior to becoming pregnant.
- Have had a healthy child.

Accessing participants

Using purposive sampling, I asked amongst my circle of work colleagues, friends, acquaintances and extended family. I began with two female acquaintances I knew had experienced an eating disorder and fitted the criteria and who I knew from previous discussions were willing to be interviewed. I also told friends and work colleagues what I was doing and asked them if they knew of anyone fitting my broad criteria (of a woman having had an eating disorder, recovered and subsequently had a child/ren) that would be willing to discuss participation in a

study. Several of the people I spoke to about my study knew of someone who had had an eating disorder. I approached the women via a third person (this was the person who told me about them and knew them well) after they had consented to be contacted, by making initial contact by phone. A couple of women on hearing of my study in conversation with me directly offered themselves as candidates as they said they fitted the criteria. I also approached two school friends that had previously discussed their experience of an eating disorder in their teenage years with me. Once the women had expressed a willingness to participate in the study I then discussed the criteria for eligibility in the study and delivered an information sheet to them. If the woman was available and willing to take part with the time commitment known, I then arranged a suitable time and place to interview them. All the women were assured both verbally and in writing that they could withdraw at any time and they did not have to answer any question/s they didn't want to. Confidentiality was assured and I told each participant how I would use pseudonyms instead of their real names. The women's age ranged from mid twenties to late forties. Most had experienced an eating disorder as an adolescent and acknowledged recovery as taking a few months to several years. Most of the women's children were between 1-20 years of age at the time of interviewing.

Three of the participants lived out of the area and of those, two women chose to participate in the study via emails and the third woman was interviewed over the telephone with the interview being taped via speakerphone in my office (these women had previously been sent information sheets and had signed consent forms). All emails were deleted after being copied into my research transcription notes (this is a secure area). Not all women who had a previous eating disorder wanted to take part; some spoke to me about their eating disorder but then decided not to be part of the study (of the 16 approached to participate, 3 declined, 3 did not fit the criteria and 11 were interviewed).

A few women who fitted the criteria were unable to be included in the study for one reason or another, e.g. one woman who was interviewed was excluded because her low weight could have been related to a previous illness, another woman who had bulimia had a child with a cleft palate so was not interviewed. I had specified in my criteria for selection that all the infants had to have been born

healthy so as not to induce any possibility of guilt feelings during an interview of this nature and here specifically because of the link between infants born with cleft palate and mothers with bulimia.

Sample description

For the purposes of this study I included women who had *self diagnosed eating disorders* (ref Lit Review pp7-13).

Half of the women who had had an eating disorder had consulted a doctor while they had the disorder (or their parents had taken them) and of those only one had had hospital treatment for the eating disorder. The other half had never been clinically diagnosed this included a woman with a self-diagnosed eating disorder who had experienced an extremely low weight of 35 kilos at 1.65m. Eight of the women had experienced anorexia nervosa, with four of the ten subsequently or prior to the anorexia having bulimia. Two of the ten had eating disorders not otherwise specified (eating disorder-NOS). Most women had not had treatment for their eating disorder and this was advantageous in the sense that they gave me accounts that were theirs and not an understanding they had gleaned from months of therapy. This has been noted previously in a N.Z. study of former anorexics (Webb, 1982) where “all subjects except the one who had been untreated leaned heavily on textbook explanatory systems fed to them by their former therapists” (as cited in Stiles, 1990, pg 48). Eight of the ten women had tertiary qualifications.

Data Collection: Interviews

Once the participant had seen the information sheet, agreed to participate and signed a consent form (refer appendix 3), I then set about gathering the data. This was accomplished by tape-recording an in-depth interview between each individual woman and myself. These interviews were arranged at a time and place to suit the participants involved in this study and to protect their privacy. Most of the women expressed a preference to meet at the researcher’s office where the interviews were conducted in a private lounge.

Each woman was treated with the utmost respect and concern for her well-being and in the context of reciprocity any questions they had about the researcher’s experience and understanding of the condition were freely shared. The women

discussed their eating disorder, recovery, pregnancy and early mothering. Several also wanted to discuss their teenage daughters eating habits.

The interviews took between one to two hours. When I needed to go back and ask the women about certain aspects of the evolving theory generation I rang them, arranged a convenient time to talk over the phone and proceeded to ask additional details or clarify something they may have said previously. I kept records of what they said and dates and times. The two women that emailed their replies were emailed with further queries that arose during the course of the data collection, to which they replied. The women who were interviewed later were not required to be re-contacted, as I was able to ask them all I needed to know.

The interview enabled me to capture information in a woman's own words how she interpreted her eating disorder retrospectively, how she had recovered and what the experience of being pregnant and early mothering was like for her. Many women spontaneously offered perceptive analysis of their eating disorder, their recovery and how they had developed a more healthy relationship with food. Some were able to explain why and in their own words how food can be used as a "drug of choice" for many young women today (Thompson 1994).

The Interview Questions were generally open-ended questions, (refer appendix for full questions) which focused on:

- The eating disorder and recovery, timing and duration
- The first pregnancy
- The first year of the infant
- Advice received by the pregnant woman / new mother on nutrition and feeding of the infant.

As is consistent with theoretical sampling, many of the questions were generated out of the context of prior interviews as analysis of the data began with the first interview. So statements made by the first few women with previous eating disorders indicated the type of approach to take with questioning the rest. All the women were asked if they were willing to be contacted to clarify anything that may have come up and be asked additional questions if needed. They all agreed.

Because this was a retrospective study, the women's weight was assessed by their personal report. They told me their lowest weight (with the eating disorder) and also their weight now as well as prior to and during pregnancy. Some of the women (three of the ten) had kept their pregnancy weights recorded on GP's antenatal charts and could refer to them though none of the women in the index group had difficulty recalling any of their life cycle weights. Most had their child's Plunket book, which recorded the infant's birth weight as well as growth in the first year and referred to it.

Reference group of women

As the study progressed I wanted to expand the data to include the experiences of what other women (without a previous eating disorder) were saying in relation to food, weight, body size satisfaction, pregnancy and childrearing, so eight women were interviewed as a reference group. The women were chosen because of their age and slim to average build to match the target group more closely. I recruited these women through directly asking friends and acquaintances if they wanted to be part of my reference group of women for my study. They were informed that they were not the group under focus but would be used as a reference. They were given the information sheet and consent forms. All women who were spoken to about the study were willing and agreed to be interviewed as a reference woman.

The reference group of women were asked the same questions (3-5) about their pregnancy and the first year of their infants life but instead of the first two groups of questions (about their eating disorder) were asked about their relationship with food/diet as an adolescent and older, their parents' attitudes to food/weight, exercise, and any concerns they had with their weight, shape or diet (See appendix three).

Sources of Data

With Grounded Theory, data can come from a variety of sources, interview, field observation or documents and for the purposes of this study the main source of the data was from the actual interviews with the women, however field observations and Plunket and some antenatal records were also looked at. Interviews enable the researcher to understand the context and perspectives from the participant's

point of view. I used a semi structured interview so there were set questions each participant was asked to consolidate emerging theory, however I was also endeavouring to give the women plenty of space so I could elicit from them what they thought was significant about their eating disorder, pregnancy and the early feeding of their child. Lofland, (1971) describes this process as a “flexible strategy of discovery” and “its object is to find out what kinds of things are happening, rather than to determine the frequency of predetermined kinds of things that the researcher already believes can happen” (pg 76).

Data Analysis

This was in line with the methodology of Grounded Theory outlined earlier in this chapter and my intention was, to discover the basic social process going on in these women’s lives (Glaser, 1978).

Coding and Constant comparison

From the very first interview I began coding and examining the data line by line for meaning and any emerging concepts. All of the transcripts had involved interviews of at least one hour and some of the interviews had been as long as two and a half hours so there were some very lengthy transcripts.

Codes were written in the left hand margins of the transcripts and significant phrases used by the women were highlighted as potentially useful codes to ensure the capture of the women’s words so that the theory was grounded in the data. For example one of the first codes I had was “control” as several of the initial women interviewed using the word “control” to describe how they took charge of the situation they were in. Later they described how the eating disorder led to loss of control in their lives. Other initial codes included “body size consciousness” and “comments from significant others.” As the other interviews were done and transcripts completed I continued to look for codes already noted and generated additional ones. When I determined a new code I then went back to the previous transcripts and mined the data for corresponding evidence of it. Also when I had the core category I reread each interviewee’s transcript with that core category in mind as well as looked at each subsequent interview with regard to that category.

This method of generating theory is “constant comparative analysis” as outlined by Glaser and Strauss (1967).

Memoing

There are various methods of memoing and these usually involve writing down ideas that occur as coding continues. Dick, (2000) suggests the researcher has small cards in their pocket at all times. I preferred to keep memos as stick on notes around my computer with ideas about theory development and links between codes as I went through each transcript. As an example of memoing, I listened to women speaking about “falling short of the mark” prior to the eating disorder, another woman mentioned “never being good enough” after 20 years of having an eating disorder and still later a mother mentioned about her daughter “not cutting the mustard” in relation to her size for advanced dancing exams. The idea occurred to me that this was a common theme through many of these women’s lives and I then was alerted to any further comments in a similar vein that they felt pressure from an early age to “measure up.”

Core Category

As coding proceeds, codes begin to merge into larger “categories.” The category that came particularly quickly in my study was that of “measuring up” with the women mentioning throughout their interviews self worth issues that had dogged them to greater or lesser degrees throughout their lives and how they had managed to resolve them, with the initial eating disorder being the first attempt at trying to “measure up.” The categories, which were emerging, were sought in later interviews and compared one with the other. I later identified “measuring up” as a core category because it covered the basic social process that the women were continually resolving as they moved through various stages of their lives. Their lack of “measuring up” was how many of the women perceived themselves by reference to external standards intimated to them from a variety of sources (often, close family members) which they had internalised from an early age with many of the women referring to this unhappiness with their self image throughout their life stages from first developing the eating disorder, through recovery and later pregnancy and mothering. Many of the “recovered” women were most insistent that this was crucial in how they would do things differently (than their parent’s generation) to not project this set of values (of not measuring up) on the next

generation, that is, pointing out or referring to their bodies as somehow not being adequate in terms of weight, size or shape. Others in the sample seemed set to repeat the same pattern with their own children. This feeling of being inadequate or not measuring up was not so evident during pregnancy, when the women believed weight gain was legitimized, or their child's infancy but came to the fore when their own children, particularly daughters, reached adolescence.

Theoretical sampling

Grounded Theory requires the use of theoretical sampling which is the active sampling of new cases as the analysis proceeds. I initially selected participants who were representative of the area I wanted to study, that is, were women who had recovered from an eating disorder and subsequently had children. Using theoretical sampling meant that as the theory emerged, I could decide what data to collect next and where to find it—specifically what women would I turn to in data collection. However, I did not know in advance precisely what I was sampling for and where it would lead me (Glaser 1978). I was not purposively selecting for age, race or geographical location however most of the women choosing to participate were over forty (a couple of the women were in their late 30's and one was mid twenties). I found that the “older” women more often had a lot to say about their eating disorder, recovery and having children and had sometimes remarkable insight into events that helped shape them as teenagers when they were describing their disorder, recovery, pregnancy and their infant's early life. This type of sampling is driven by theoretical concerns with new cases selected for their potential for generating new theory by extending or deepening the researcher's emergent understanding (Pidgeon, 1996). I also used so-called “negative case analysis” where cases that do not fit the emerging theory are explored. This is done as a means to challenge initial assumptions and categories as noted by Turner (cited in Pidgeon, 1996).

Trustworthiness of the study

In my study, the measures outlined earlier in this chapter to ensure the criteria of credibility were met. These included asking all the women for the same information as well as transcribing all data verbatim. I returned to many of the women at intervals during the data collection to ask additional questions as the need arose to clarify emerging patterns in the data and to ensure the women were

comfortable with the findings and felt they were representative of what they had experienced. Information was also sought from multiple data sources, for example, most women had kept Plunket record books for their children and some had their antenatal medical record charts. Additionally as I met regularly with my supervisor throughout the length of this study and she, in effect audited the whole process including reading all the tape transcripts as well as my results and findings.

I endeavoured to meet the criterion of being replicable (transferability) by outlining in detail how I conducted the study so that another researcher could follow this trail and reach similar conclusions. To confirm whether the findings were “generalisable, robust and replicable” (Stiles, 1990) or not was met by presenting the findings to several of the women in my index group as well as other women who were not involved in this study and asking if they were able to relate or identify with the findings and Basic Social Process. This was so I could confirm whether the results met the criteria of “fit’ and that they helped the participants understand their experience and manage it better (Glaser, 1998). The response from the women was positive and endorsed the findings

Summary

The process involved in doing this research has been presented in this chapter, from why Grounded Theory was chosen and how the methodology is applied to the ethical considerations and trustworthiness of the research. The data collection methods and a brief outline of the data analysis involved in this study are detailed to allow for reproduction if needed. The following chapters continue with the results, discussion and conclusions of this analysis with my intention being “to discover the basic social process going on” in these women’s lives.

CHAPTER FOUR

Preface to the findings

Introduction

In the next five chapters the findings of the study will be presented. The previous chapter has covered the methodology of Grounded Theory and how it was used in this study. This chapter will present an initial discussion of the Basic Social Process that emerged from the data within the context of developing an eating disorder, recovering and managing the experience of pregnancy, the early feeding of the women's children and later concerns. An introduction to the reference group is also included by way of familiarisation with who constituted this group and the role they played in the study. The next four chapters are based on major life cycle events for the women with a previous eating disorder 1) the development of the eating disorder 2) the recovery 3) pregnancy and early feeding 4) later years and these four main events include the conceptual categories I identified from the data. The fifth chapter concludes the findings with a discussion of the basic social process (BSP).

The women in this study all came to describe their experiences in a way that determined the basic social process (BSP) of "measuring up." The theory emerging from the data was that the women had begun quite early in their lives to believe they were not "measuring up" or "falling short of the mark" in some way. These conditions led to many of the women experiencing a lifelong feeling of being inadequate and spending a substantial portion of their lives engaged in strategies to prove they were good enough. For most of them, this centred on the control of their food intake, their weight and exercise. All the women would have been said to be "recovered" with respect to their weight being within normal parameters and most if not all of the dysfunctional eating behaviours had long since ceased but many of them confided in me a sense of still being "not good enough" or "I still do suffer from a bit of poor self image. I think that's been ongoing all through the years" and could link any weight fluctuations or lack of exercise with a dip in their self-confidence. As the women related their stories four categories stood out and these categories acknowledge how the eating disorder began, how they recovered and how they managed pregnancy and the

feeding of their child/ren. These categories are presented as “**A way out of feeling**”, **Recovery**, “**Doing the right thing**” and **Repatterning**.

These four chapters discuss what was actually happening to the women at these times as they firstly coped with their eating disorder and then how their eating dysfunction normalised over time with other strategies being implemented and then looking at their experience of subsequent significant events such as pregnancy and mothering. When defining the concepts and their properties the actual words of the women are used several times throughout to support the theory and to help ground the study in the words they used to articulate their own experience. Where the women have been quoted the words are presented in **BOLD** with the woman’s code name at the beginning of the quotation marks.

To broaden understanding of how a woman with a previous eating disorder experiences these events I identified women in the community who were of similar build now (according to BMI’s) to my index group but who said they had never had an eating disorder and interviewed them for their experiences of these life cycle events as well. I called these women collectively the reference group.

The reference group

This group of women was of slim to normal build according to their BMI’s. They were similar in age range to the women in my index group and they all had at least one child. Because they said they had never experienced an eating disorder, I used these women as a point of reference throughout the study and their thoughts and comments were canvassed on various relevant issues that came up with the index group. Their comments are presented in *italics* throughout the text and with their code name at the beginning of the quotation marks. The use of these women as a reference became a means of expanding understanding of what a wider range of women had to say about size, weight and food concerns and how they experience events such as pregnancy and the early feeding of their children. A few of these women were notable for having some dysfunction with food as evidenced by their pre-pregnancy weight and their weight gain during pregnancy. I encountered a wide variety of women, some who had never had been concerned about food or their weight “until middle-aged spread occurred”, others who had always watched their diet and exercised but never in an excessive or obsessive

way and a few who maintained they never had any concerns about their weight but survived on very restrictive diets. For some, their restrictive eating pattern could be attributed to other factors in their early childhood, which have implications for eating behaviours just as much as the other more typical eating disorder profile.

Lee, et al (1993) have described many young women who otherwise seem to have anorexia nervosa (and are designated as such in the papers which describe them) but who lack evident weight concern. And the early accounts by Gull (1874) and Lasegue (1873) (Russell, 1995) do not mention it weight concern (Mt Sinai, 1965 cited in Palmer, 2003). Two of women in the reference group had no evidence of weight concerns but both had an obvious high level of eating restraint. One had grown up in a deeply religious home where wasting food was considered sinful and her mother rationed everything that was eaten by both her and her brother until they left home (both her parents had been subjected to food rationing and deprivation growing up).

Pat told me *“Food was not there just for the taking in our house-... it was rationed. We did not have free access to food- that was mum’s department...”* and despite the mother being away at her workplace neither child would feel free to access additional food in the kitchen even as teenagers.

“We would not dream of helping ourselves to something out of the cupboards - I’d rather starve to death.” Her brother and her also ate most of their meals separate to the parents –different food and different times. It is thought that detachment and non-interactive mealtimes may hinder the development of healthy eating environment for children so that positive attitudes towards eating and food are not taught (Waugh and Bulik, 1999). Patricia said weight was never a concern for her as she was always so slight and she struggled to recall any weights associated with her pregnancy including her child’s birth weight and her present weight, though did recall being 5½ stone (BMI 13.7) when she married. Although she had needed fertility assistance to conceive no one had queried her low body weight or her very restrictive diet (no wheat, dairy products, sugar or red meat). She said she had never had an eating disorder and did not acknowledge any concern or appreciation of her severe eating restraint and very low BMI (17). Another reference group woman, Anita, was similarly unconcerned about her low

weight and said she has never had a problem with what she eats or her weight – did not have scales and said she did not like weighing herself. Her mother died when she was young and they had a series of housekeepers as she grew up. She mentioned her sister having an eating disorder and a family history of eating disorders. She too, required fertility assistance to conceive and had a “small for dates” infant.

These women may be representative of the group of women Lee, Ho and Hsu (1993) mention in their study who do not fit into any of the criteria for an eating disorder because of no weight concerns but whose life experience is such that they just do not eat very much. Both women were involved in rigorous exercise programmes. Whether the lack of desire to eat is voluntary or seemingly involuntary, the consequences of lack of food appeared similar to those women with eating disorders. Many researchers are now recognizing the need for more research on the natural course of eating problems among those who do not have full-blown eating disorders (Fairburn and Beglin, 1990; Leon, Fulkerson, Perry, and Early Zeld, 1995; Heatherton et al, 1997).

Summary

In the index group the differing experiences of the core category or basic social process of “measuring up” reflect the individual women’s experience of growing up, the situations they were in and the resources they had available to access a range of alternative strategies. As the women reflected on the meaning of their life events, they conveyed a strong sense of trying to always do the very best they could in the situations they were in and appeared very caring mothers regarding the early feeding of their infants. They were expressed concern and motivation to provide the best diet possible for their infants and were the ones who sort out information on nutrition though usually independently rather than by asking a health professional.

The first category covers the development of the eating disorder and is outlined in the next chapter (five) and is explained as **“a way out of feeling” the crisis emerges.**

CHAPTER FIVE

“A way out of feeling”; the crisis emerges

To explain the process of recovery and how women then manage events such as pregnancy and the early feeding of their infants it became appropriate to examine the background or context of how their eating disorder developed. Indeed, the women themselves drew me to this, as they could not explain their recovery and subsequent life experiences without describing how they believed the eating disorder developed. The awakening of the idea they were inadequate in some way and in somebody's opinion that mattered to them would later eclipse many of the major events in their lives and provide the basic social process that was evident in the women's lives.

“A way out of feeling” are the actual words one woman used to describe why she developed an eating disorder. I have used those words to conceptualise how the eating disorder began as an active and deliberate attempt to stop feeling the overwhelming sense of their own inadequacy. The feeling that they were “falling short of the mark” or somehow “not measuring up” became a very powerful motivator for the eating disorder. This feeling was powerful enough to provide the impetus to firstly start the eating disorder and then to keep it going, which meant overriding their body's physiological demand for food. In this phase the women participating in this study were usually teenagers, sometimes younger. The indication that they are not adequate (in some way) had been pointed out to them by someone close or an event has occurred in their life to make them feel that way.

For the women in my study this first category delineates how the eating disorder began and involves the following properties

- 1) The ground conditions-critical comments /sexual abuse
- 2) Taking control /Losing control
- 3) Positive reinforcements –feelings, looks, comments and the role of visual imagery
- 4) Self image struggles

1) The ground conditions “falling short of the mark”

For nearly my entire sample of women their home environment mediated this sense of unworthiness or negativity in one of two ways.

Critical Comments

- a) a family environment in which great emphasis was placed on looking good, (slim) and/or not overindulging with food, by an overly critical parent (usually father) or older brother
- b) Comments and teasing about their size at school by peers

For the majority of women this crisis emerged as the result of the dismay and discouragement caused by direct, personal, critical comments about their size, weight or shape by close, older family members.

Sexual abuse

As I was constrained with ethical requirements to not ask any questions relating to sexual abuse, I did not initiate any discussion and relied totally on the women making their own reference to it if they felt so inclined. This means that the number of women referring to it (four out of ten) could well have been higher if they had been asked directly.

Initial skimmed reading on the topic had led me to assume that it would not be a significant factor or not statistically relevant (Rorty et al, 1994). As my interviews progressed I realised it was significant in my sample of women, though certainly not for all. More in depth reading on the topic however led me to realize it can be a very significant factor in the development of an eating disorder. One woman termed it “the crossing of sexual boundaries.” Several women mentioned remembering both negative comments and sexual abuse.

a) The Comments:

Many of the women in this study discussed how a family member (father or older brother) encouraged concern about their size, shape or weight. Less frequently, boyfriends and peers also drew their attention to the fact they were not acceptable or “measuring up” with regard to some aspect of their body. The emphasis placed on slimness in these families conforms to their cultural expectations about what a successful, motivated member of society looks like. Part of being in this family means buying in to this attitude and its

internalisation. It also serves as a way for an individual to represent herself as a valid member of the group (Haworth-Hoepfner, 2000; Reiff and Reiff, 1992).

In my index sample of 10 women, eight women recalled that when their eating disorder began they were within the normal weight range for their age and height but some said they still considered themselves needing to lose weight. Two of the ten said they considered themselves “chubby” and one was not concerned about her weight at all at the time-Ellie recalls doing it to prove something to teasing classmates.

Ellie **“I wasn’t big, but you get called names and things so its like well I’m going to show them...-that I can lose weight.”**

Some families in particular are said to mediate cultural ideas about body size, shape and restraint in eating by conveying messages to family members about thinness, femininity or in generalised criticisms about their weight and appearance and the need for self-improvement (Haworth-Hoepfner, 2000).

Caitlin remembered the situation as thus

Caitlin **“And in some ways my father, although he is a wonderful man, he made me feel like that too (disgusting). I was made to feel guilty for eating.”**

Likewise Fiona recalled her father’s ideas about weight and being fat

Fiona **“My father would view a fat person with disgust and loathing- just assuming they had a total lack of self control. Being overweight was just unacceptable. I thought I could never get like that or I would be disowned. It also has taken me years to change the preconceptions I had about fat people... I now know them to be just as valuable as slimmer people.”**

The category “A way out of feeling” emerged here as central to the development of the eating disorder. The perception of the woman as a young girl as not meeting a certain standard in how she was supposed to look, led to doubts about her worthiness and the need to adopt a coping strategy in the form of improvement in herself by the control of diet and weight. Whatever strategy was available to her, at this time, was required and considered necessary at whatever price because the feelings of not being good enough within the family and not

“measuring up” were more overwhelming to her mental/emotional health than denial of food. The key to developing this negative self-image was (in my sample) the comments made by close family members often someone they looked up to, like fathers and older brothers. To impact strongly into the girls’ consciousness it had to be a direct personal criticism of them from someone whose opinion they value or who they aim to please to be considered a valued member of the family

Diana **“my father use to give me messages about not putting on too much weight. So there was some guilt and anxiety about that.”**

Jess **“Both my parents regularly commented on the size of me and other people and watched their own weight.”**

Or else the parents would draw attention to the fact they had to lose weight themselves:

Alice **“Dad’s always careful about what he eats- I have to get rid of this! (Holding the fat on his stomach).**

Fiona **“Dad would always model restrained eating –he considered gluttony one of the seven deadly sins and often commented adversely on people who appeared to overeat and were overweight.”**

The use of frequent comments and family discussion to delineate the parent’s views on eating, weight, etc has been termed “a main discourse on weight” (Haworth-Hoepfner, 2000, pg 216) and is said to be one of the ways in which susceptible younger family members (usually girls) come to believe in the value and importance of restrained eating and how weight loss is a legitimate means of self-improvement (Haworth-Hoepfner, 2000).

Kendler, McLean, Neale et al (1991) have researched major risk factors for Bulimia nervosa and state “contrary to research that emphasized the role of disturbed **mother-child relationships** in eating disorders (such as Strober et al, 1987) only **paternal care** correlated significantly with risk for bulimia” Kendler et al (1991, pg 1635). Other important males in their lives such as older brothers

and boyfriends were also mentioned by the index group women (who had older brothers) as playing a pivotal role in how the women perceived their bodies when they were at a vulnerable age in time.

Diana “My brother was quite selective about the women he admired and I was very fond of my brother. So he had this image of long, leggy blondes and I wasn’t a long, leggy blonde. So that contributed to my feeling that I was falling short of the mark.”

Fiona “My oldest brother would make comments when I started to develop at 13 like you’re getting fat (which I wasn’t, looking back at photos – I was just developing normally - heck I was only 53 kg), but I did not want to get fat because in our family being a girl was bad enough but to be fat with it would have been unbearably bad.”

Isobel “I did look up to my big brother and thought very highly of him - he use to make comments (prior to her developing an eating disorder at 14) such as “getting a bit chubby there, Sis? ” and “eating too much are we?”

Genevieve said that her parents would never have commented on her size or weight but one brother who was closest to her in age did (he was 17 when she was 13). **“He would always hassle me about my figure and my figure was my weak point, I was always conscious of my figure and I know now that he thought I had a good figure and he just wanted me to stay that way.”**

She said it would not have mattered who said it because she was sensitive anyway.

These younger sisters clearly looked up to their older brothers and the influence they had in encouraging the feelings of not living up to the family expectations of what they should look like is evident. Boyfriends were also other significant males in the girls’ lives that made comments that affected them.

For example, Genevieve, who already had a heightened concern about her figure due to her older brother’s comments, later encountered a boyfriend who placed

further expectations of what her body should look like, on her.

Genevieve **“at the time I had a boyfriend who hassled me about the weight gain, ... and I found that quite humiliating and started dieting then and I got down to 8¼ stone and felt good about it and got nice compliments...so started eating less and less and not eating for a day here and there and vomiting if I overate. I was really influenced by him and he was quick to point out the faults in my figure.”**

Caitlin says the weight loss with her eating disorder began when she was 18 with **“being emotionally distraught with unrequited love and continued, once I realised I was losing that weight, I put myself on a strict diet, surviving on 900 calories a day no matter what.”**

Bev says her daughter is now 18 and **“is borderline for an eating disorder after hurtful comments about her size from an ex-boyfriend.”** (She is 52 kg).

Other comments from peers at school also played a crucial role in igniting what may have been a latent tendency to developing an eating disorder.

Alice said she developed early and so became the target for schoolyard teasing **“...I wasn't happy that the kids were calling me names (Fatty Fernando)... I was a sensitive person anyway.”**

Caitlin recalled being chubby as a child **“and being called fat by my peers or made fun of, more so at primary school... I was acutely aware of wanting to be slim... like everyone else.”** These comments in addition to her father's comments would provide the impetus for her eating disorder.

Ellie said she was not concerned about her weight at all, which was quite normal, and was not being teased about her size but for other reasons. She then decided to lose weight as a means of control because the teasing was hurting her. **“As a kid at school, I wasn't big, but you get called names and things and if you're sensitive you start getting hurt ... and you hear people and the names they**

call you so its like well I'm going to show people that I can lose weight and do this."

The literature contains reports of women developing anorexia as a result of dieting in response to negative comments about their size and there is some evidence that these women may be particularly sensitive to these comments. Bulik et al (1995) and Strober (1991) noted that individuals with anorexia nervosa are hypersensitive to rejection or disapproval. Adolescents who develop an eating disorder have been reported as frequently demonstrating feelings of inadequacy, guilt and self doubt as well as relying on the opinions of others to gain approval. This is said to make them particularly vulnerable (Muscari, 1998). Szmuckler et al, (1995) endorses this when he says the single most common denominator in the pathogenesis of eating disorders is vulnerability. Some of the women in my index group spontaneously mentioned that they considered themselves particularly sensitive, even as adults.

b) Sexual Abuse

The other condition that appears to give rise to the eating disorder as a way of negating the feelings of lack of self-worth and not "measuring up" is sexual abuse in its many forms. This is in agreement with many previous studies, which have found a significant association between sexual abuse and eating disorders (Oppenheimer et al, 1985; Hibberd et al, 1988; Steiger and Zanko, 1990; Dansky et al, 1997; Wonderlich et al, 1996a; Wonderlich et al, 1996b and Garfinkel et al, 1995). Retrospective accounts of sexual abuse can be less reliable due to the influence of memory recall problems or "effort after meaning" criticisms so a recent study by Wonderlich et al (2000) using a controlled, prospective, longitudinal design is a welcome addition to the literature on this topic. His study revealed that sexually abused children were more likely than controls to express weight dissatisfaction, food restriction when emotionally upset, and the pursuit of thin body ideals and heightened purging behaviour. This behaviour was noticed after the children had first been identified as having been sexual abused rather than the other way round. This type of prospective study endorses what other authors (see above) found with other less reliable, retrospective designs.

Four of the ten women (with a previous eating disorder) in my study spontaneously volunteered having a history of unwanted sexual attention/abuse as children.

Diana **“Quite a long time later I realised there was some crossing of sexual boundaries by my father and that certainly contributed to my confusion about what my rights were in subsequent relationships.”**

Hannah was one of three daughters who were all exposed to a range of sexual abuse by their father while living at home; she felt the additional burden of trying to protect her younger siblings from it. She resolved her eating disorder after she left the family home. **“I was very unhappy in my 7th form year but when I left for university I gained control over my eating.”**

The loss of weight can also be a powerful coping strategy when a young girl is feeling powerless in a family situation where sexual abuse is producing the negativity they have regarding themselves.

Fiona also experienced this situation **“I had just started to develop and this extended family member started abusing me sexually... I felt pretty powerless because he was held in high regard by my parents but I discovered that when my weight dropped and my developing body shape disappeared – it turned him off ... I lost even more weight – perhaps to make sure he never came near me again.”**

Reiff and Reiff (1992) say that a common form of sexual abuse experienced by people who develop an eating disorder is when a person is too physically or emotionally immature to understand what is happening and allows the male perpetrator to continue out of fear of rejection by that person if she resists. They estimated that the incidence of sexual abuse in women with an eating disorder (60%) is much higher than the general population (20%).

Sexual abuse has also been found to have a strong correlation with young women who engaged in regular laxative abuse or purging to lose weight (Hibberd et al, 1988). Five women in my index group mentioned the use of laxatives and

purging but only one of those women volunteered information about sexual abuse. Food restriction has been named in other studies as a coping response used by women with eating disorders to reassert personal control over their bodies (Gordon, 1990; Root and Fallon, 1988, 1989; Kearney-Cooke, 1988) and also to increase autonomy (Bell, 1994; van Vreckem and Vandereycken, 1994; Wooley, 1991) all cited in Haworth-Hoepfner (2000).

2) Taking control/ losing control

The effects of the negative comments about their bodies and the guilt induced by being told to be careful with what they ate and also, for some, the sexual abuse occurring in the family home, led to the women in the index group needing to induce change in their lives to stop feeling like they were not measuring up. The women also developed a need to transfer the lack of control they felt in one area of their lives (abuse) to another easily controlled variable in their life, which was food.

Taking control

To manage the feelings of being inadequate some girls decided to embark on a self-improvement plan and this usually centred on loss of weight. Once they could see the plan working it gave them a measure of control over their lives that they previously lacked. Several women referred to the feeling of being in control once they were losing weight.

Fiona recalls as a teenager deciding food could be controlled when other aspects of her life could not. **“Looking back I suppose it was just a control thing - I do remember being 13 and feeling trapped in a bad situation and then when I started eating less and less I felt more in control of my body – I don’t know why – sometimes I think I just wanted to disappear, nothing mattered anymore.”**

So for the majority of the women in my study, there was an overriding need to develop control over their bodies. Control was something these women indicated as younger girls they felt they did not have a lot of in their lives. This led them to take the only form of control they had easily available to them, that is taking control over their body and this manifested in behaviours such as restriction of

food, vomiting if overeating and other behaviours involving control through relentless exercising- all of which centred around their bodies.

Diana described it this way

“...And I use to bury that confusion [over her father’s actions] by meeting some sort of limit in another way and the limit I chose was when I could not eat anymore. I would avert my attention from the beholdenness and obligation that I felt for my father and it would turn the attention towards this problem with food. The problem was – I was out of control with food and being able to vomit and that anguish about my body shape and it just kept the focus on the food rather than the underlying issues.”

Nearly all women referred to the control factor as an indicator of their self-esteem. Diana explained that **“the control was based on severe food limitations and I kept my anxiety down because my weight was reasonably light... and I felt quite good about that. It was the way I dealt with feeling perturbed about something or uncomfortable about something, it was my way out of feeling.”** Here the control of food and dysfunction surrounding it is being used as a focus of attention for the adolescent to draw their attention away from the other alarming aspects of their life over which they do not have any control. Over time, this sense of control over their bodies can be harder to maintain as they lose body mass and their metabolic rates slow and they find they have to eat less to maintain or lose even more weight. This constant starvation starts to require their bodies to develop compensatory mechanisms and can in some cases lead to binge eating.

Losing control (bingeing)

Severe restriction of food invariably leads to the resulting bingeing and in several cases vomiting, use of diuretics, laxatives etc. with many women complaining that it took years to normalise their metabolism and eating habits –they did not know what normal eating was like and did not think they could ever get back to it.

Isobel **“You don’t eat... you tend to do more bingeing... it’s taken me years... to be able to sit, go through a normal day eating normal meals. 2 pieces of toast -breakfast, a sandwich for lunch, a meal at night and maybe a snack**

during the day and actually metabolise and not put on weight, not fluctuate, to be settled.”

Other women also recognised a pattern of unhealthy eating brought about by the severe limitations they had placed on themselves and how this led to sugar binges to elevate their blood sugar levels.

Fiona **“once you have gone through a lot of denial with food it seems to lead into more uncontrolled eating especially with sugar - I remember the feeling after school on a cold day buying lollies and how quickly the blood sugar would go up and you felt so much better – it becomes an addiction, I would eat lollies instead of real food.”**

Ellie **“it was like going for the sugary foods to keep the energy up, so I would not be eating [real food] and having chocolate...”**

Alice **“it was a little bit-not eat, then get hungry and eat the wrong things, that sort of pattern, I would binge a bit.”**

Others spoke of how they now felt more in control of their bodies and what they did to them now and did not believe they would go down that road again.

Diana told me **“If for some reason I could not exercise or had to lead a less active lifestyle and did put on weight, I’d like to think that I would not need to resort to controlling it with bingeing and vomiting.”**

The women in my study knew that binge eating was not a good thing as well as the other more aberrant food related behaviours that they developed whilst they had the eating disorder but many had struggled for decades with it.

3) Positive reinforcements for the eating disorder

Some of the women mentioned how the eating disorder behaviours fed on themselves to keep the cycle going despite it getting harder to resist eating as their weight dropped. After initially losing weight there was positive reinforcement for the weight loss to continue because of the following factors.

Firstly, how they felt, with many of the women talking about how they felt better about themselves after losing weight. This appeared to be of paramount importance to the women and secondly, how they looked. How they looked, also drew the positive and complimentary comments from other people. Finally, some women mentioned the use of visual imagery to keep them going.

As Isobel explained, how she felt, was paramount even to how she looked. She no longer felt bad about herself **“I felt extremely good, and looked good. The nice slim stage - size 8 and all those fantastic things. I have a photo of me at the A & P show grounds.... I knew it wasn't good, but it felt good.”**

Genevieve also refers to how she **felt** when she initially lost some weight and comments she got from others to make her feel a lot better about herself and provide the rationale for what she was doing (and would continue with for the next 20 years). **“I got down to about 8¼ stone and felt good about it and got nice compliments.... I had a taste of being really skinny and really liked it... and also had felt more in control.”**

For Alice as a 12 year old who matured early, got teased about her size and then lost a bit of weight, the comments from others were critical to her feelings of self worth **“People said...you're looking good, or you've trimmed down and I thought this was quite good and that's when I started reading about calorie counting and diet...”**

Garner and Bemis state that “the relentless dieting is maintained by potent cognitive reinforcement from the sense of mastery, self-control and competence derived from successful dieting” cited in Reiff and Reiff (1992, pg 135).

Another means of positive reinforcement of the eating disorder behaviour came from the use of **visual imagery** from the media particularly women's magazines. None of the women in this study mentioned seeing women in the media and being sparked into eating less because of that imagery, though once started, due to the direct verbal comments made to them about their size and its acceptability that imagery can be used to fuel the eating disorder.

Alice **“I used to look through magazines and thought I would really like to be that size, that image nice and slim and I used to cut the pictures out and put them on my wall.” (age 11)**

Also Fiona mentioned the use of magazine pictures to be a powerful motivation for reducing her food intake even more, to achieve the look she wanted. **“When I was 14 and going hard out to lose as much weight as possible in as short time- I used to cut pictures out of magazines – you know girls in bikinis with really slim figures and I kept them in a diary of sorts which I would refer to if I was weakening and wanting to eat - this was a really big incentive to keep going”**

The use of visual images to provide motivation to continue denying themselves food is where the cultural influences of the media, (magazines, posters) managed to reach into these girls lives but it does appear to have been mediated firstly in a closer milieu such as the family or at school amongst peers.

4) Self image struggles

For some, the eating disorder behaviours appeared to give them a sense of mastery over their bodies, which kept their sense of being inadequate and not “measuring up” in the background. Once they started losing weight they attained a sense of relief from the overwhelming stress of not being good enough. Unfortunately, this sense of mastery over their bodies was only temporary and the sense of not being good enough or not measuring up was still evident today for some of them despite successful lives as professional women and marrying and raising a family as well as being outside the influence and reach of the previous significant family member who may have precipitated the original feelings of not measuring up.

While weight recovered now, most women still said they “linked” how good they feel about themselves with their current weight.

Alice, a very tall slender woman, who woke early every morning to go for a run told me how she had never quite shrugged off that niggling feeling of not measuring up all through her life.

“...the self image - I’ve never really been happy with the weight. I’ve always thought I could be half a stone lighter. Even now I still think I should lose

that half stone. My image of myself is that I am a big person and should lose half a stone.”

Fiona described how she felt if she ever put on any weight

“Years ago I would only consider I was worthy if my weight was light. Even now although my weight has varied only slightly in the last 30 years I could not envisage putting on more than 2-3 kg before I started to feel some unhappiness with myself.”

Jess recounted how her sense of how she felt about herself was intricately wound up with her exercise routine (or lack of it) and her weight.

“when the weight is down and a regular fitness regime I’m more confident with myself and therefore more in control.”

Isobel (a very talented ballet dancer who had to leave a dance school for not keeping her weight down to 50 kgs at 5’ 7”) explained how she felt being bullied about her weight at the dance school, and how it had dogged her throughout her life. She said **“the directors of the company use to pull the scales out and said you girls are all eating far too much, you’re all getting far too fat and you had to weigh in...just all there [in front of everyone] ... and that was so embarrassing.”** She recalled the shame she felt in front of everyone being told she had to lose weight and that if you did not lose enough to satisfy them then your days at the school were numbered.

“... it’s very hard. It actually had an effect long term on how I react to criticism these days... I take it very much to heart.... It’s when you’ve been bullied all the time to lose weight. And going through the heartache of not achieving what you set out to do.”

Many women who had recovered from their eating disorder still acknowledged a part of them that said they weren’t good enough

Caitlin **“You see psychologically I think, and I do think I still do suffer from a bit of poor self image. I think that’s been ongoing all through the years.”**

Genevieve after many years struggling with her eating disorder referred to how she felt about herself of never quite being acceptable “...**But the “not good enough feeling” or not having a good enough figure, and I knew by then that having a good figure was not the most important thing in life but it would still be something I would use to hate myself with.**”

Alice also felt the same pressure, even though she had recovered at 17. She said she had struggled with herself all her life “**weight and food have always been an issue throughout my life.**”

Several women also discussed how the effects of their poor self image linked to their eating disorder had led to the abandonment in their late teens and twenties of previously held moral standards and sexual restraint.

N.B. All reference group comments are italicised

Reference group of women-

The families of these women appear to have a different ethos surrounding weight and food than the families of the index group of women. The reference group families were said to be far less concerned about weight/size and food issues than the index group families. No women in the reference group remembered any particular comments from family or friends. Food and weight was in the foreground of their family's life whereas for most of the index group families it was the focus.

The lack of recall about comments on their weight or size could be either because they did not experience any or because they don't remember because they were not particularly affected by that type of remark. Several women spoke of food in a functional way from their childhood.

Donna said “Parents attitude was sensible, food was fuel and energy and a family time together.”

Likewise rural living for half the women as young teenagers provided a different perspective. For Emma being raised out on a farm was quite different to the city

lifestyle.

“We lived on a farm and there was no extra- Mum was very careful with what we had and we had roasts every week – no takeaways and lollies though if we did that was a real treat. Plus living on the farm we were never in town to have takeaways.”

The reference women were generally a lot more vague about what their weights were at different stages in their lives (whereas the target group knew how much they weighed at all their life stages). The reference group also appeared vague about food –it just did not ever appear to become the issue in their lives.

Cate was unsure about how much she weighed as a teenager - (did not really know) “probably about 50[kgs], possibly got a little bit plumper from 17-19 looking back at photographs but it wasn’t much – I can’t remember ever worrying about what I ate. From the age of 15-18 that alcohol scene and alcohol was more important than food and it was drink and then lets go and grab a burger or a kebab and that was our lifestyle really and food wasn’t a part of that.... mum would have left a plate out but I did not ever eat it.”

Megan also reiterated that food was a non-issue for her “It was very much in the background. It was a fuel, I did not have any weight problems when I was a teenager.” Emma, likewise, did not recall any concern “Wasn’t fussy as a child because I did not have to worry about my weight it wasn’t something that ever occurred to me to worry about what I ate or to diet- My family is all light –all built the same way I never saw anyone else dieting.”

Anna acknowledged that while she was unhappy as a child and had a few problems with acceptance, food was not involved “[Food] It wasn’t a concern, well nobody I knew had this thing about food – it was just meat and veg, toast for breakfast ...I ate everything...no concern about weight.”

Brenda recalled that food had meant nothing to her growing up “Very normal, cereal and toast in the morning, sandwiches for lunch, meat and vege at night. Food meant nothing to me actually– I never dieted though. Free access to food

at home. We always had chocolate biscuits in the house, pudding with a Sunday Roast.”

Donna who went to boarding school in the late 60's early 70's said

“At boarding school we ate what we were given and I don't recall any problem with that.”

For the reference group, food was not a major concern in their lives as they grew up. Many acknowledged they hardly gave it a second thought. For the index group, food and the control of it, had taken up a significant proportion of their time growing up and they would say things like “ My whole life has been about my weights!” or “I never eat anything without thinking about the number of calories in it.”

Summary of first category

“A way out of feeling” is the concept that women developed an eating disorder as a coping strategy for dealing with their belief that they were not “measuring up.” This belief usually began in their teen years though sometimes younger when they began to feel they were inadequate in some way. These feelings were usually facilitated by personal, derogatory comments about their bodies and in some cases sexual abuse. Other properties intertwined in this category are control (how the girls tried to assume it and then often lost it), the positive reinforcements for the eating disorder behaviour to continue and the struggle with self-image issues.

Several women spoke about the development of alternative coping strategies for this sense of not “measuring up” or ever being “good enough.” They knew there was a need for more long-term constructive strategies. The exploration of alternative strategies will be discussed in the next chapter

CHAPTER SIX

Recovery- The Development of Alternate Coping Strategies

The second conceptual category was Recovery. This was not a discrete or lineal event for most of the women but evolved over time as the women looked at various alternative strategies for coping with their feelings of inadequacy or not measuring up rather than relying predominantly on food restriction, bingeing or vomiting. The properties of this category “Recovery” include the range of alternative coping strategies that the women tried, evaluated and either incorporated into their lifestyles or discarded. Another property was regression with some women returning to their original coping strategy of the eating disorder behaviour at stressful times in their life. Other properties include how some women described learning to use the signals their body was giving them with the eating disorder behaviours and resolved how to adapt their situations to prevent a reoccurrence as well as the property of “learning to trust” themselves. For many women the major positive alternative coping strategy was exercise and so they maintained control over their concern about “measuring up” more from exercise and much less from the restriction of food. Other forms of relieving their feelings of inadequacy included gaining more knowledge of their condition and understanding about themselves from self-help books and counselling. The recovery for most women involved a gradual lessening of the eating disorder symptoms and obsession over time and a trial and error experiment with other more constructive strategies, which then became the preferred way they used to meet their need to “measure up.”

Recovery involved the following properties:

1. Alternative strategies –Exercise - from rigid to flexible
 - effects on self esteem
 - Gathering information
 - Counseling
 - Medication
 - “Finding God”
2. Regression during times of stress
3. “Using the signals”
4. “Learning to trust”

1) Alternative strategies -

Exercise (rigid to flexible)

This main strategy evolved significantly over time as the women initially used exercise as a means of losing weight and were rigid, obsessive and excessive with their exercise routines (which were solely used as a weight loss mechanism). Then, the women tended to modify their approach as they recovered, and adapted exercise as a tool to control/maintain their weight as well as discovering the positive spin-off which was how good it made them feel about themselves.

Obligatory exercise has been characterised as an indicator of anorexia (Beaumont, Arthur, Russell and Touez, 1994). Exercise can be used solely for weight management or to compensate for overeating and binge eating, indeed “vigorous exercise to prevent weight gain “is a diagnostic criteria of the DSM-IV for bulimia (American Psychiatric Association, 1994). Here exercising is referring to significant amounts like 2-3 hours per day, marathon running etc. However, many women and men worldwide use exercise as a successful and healthy strategy to help control their weight. I noted nearly all the women had at some stage been involved in exercise programmes of more than 1 hour per day and even now, two continued to train for marathons, two continued to dance (or teach dancing) as well as working fulltime and another was a gym instructor for an exercise programme (as well as being a physiotherapist). However current literature on exercise and eating disorders states it is not so much the amount of exercise done but rather the negative emotionality associated with the exercise activity (e.g. guilt at missing a session, or use of exercise to compensate for overeating) that determines whether the exercise is linked to the pathology involved in eating disorders (Ackard et al, 2002). Several of the women talked of how they used to be rigid with their approach to exercising while they had the eating disorder.

Diana, a runner, said she used to make herself exercise every day (unwell or not) when she had the eating disorder but now exercised more moderately by running three times a week (30-40km in total) and sometimes might swim instead of or as well as running.

“I think I used to run to control my weight, in fact I’m pretty sure that’s why I used to when I was a student. I’d run every day, whether I had a cold or not, wet, wild or windy I’d do it.”

Exercise became a significant part of the control of body weight as well as denial of food especially for girls who were dancers.

Isobel “At ballet school you are there for 8 hours and you spend all day in front of a mirror. We were dancing all day, two classes in the morning and 2 in the afternoon. I had 2 pieces of fruit at lunchtime and just vegetables at night. At one point there I was keeping track of what I was eating on a daily basis in a calorie book and I was eating 600 calories a day.”

Alice, as an eleven year old, said she knew the key to the weight loss would be through exercise **“I just tried to be as active as possible-the idea was to lose weight and I became involved in any sport that I could do at school.... I kept the exercise up, it started then and it’s just carried on.”**

Ellie remembering when she was 14 **“... and it was the exercise – I was so much into exercising”**

Bev said as a 16 year old she was over exercising every day to lose weight, **“I did running, I would do whatever I could... cycling, I would make myself do sit-ups.**

These women were recalling a time in their lives when they did use exercise excessively as a means of reducing their weight sometimes to very low levels.

Becoming flexible

I believe exercise was used as part of the eating disorder behaviours initially but then was adapted to be a more moderating influence in their lives to balance out food intake. The women in my sample talked of how their exercise routines changed and relaxed as they recovered and got older and how they could trust their bodies more and not subject them to the rigidity of strenuous exercise routines that had to be upheld whether they were sick or not.

Diana described how she has more trust in her body and what it tells her these days and even though she still exercises regularly she is not as rigid in her approach to always completing her programme for that week.

“I use to run to control my weight, I’d run every day, but now I’m more flexible... Like if I start off for a run and if I realise that I really don’t feel like running, its OK I can walk now, without feeling like this is the beginning of never being motivated or disciplined and I just trust that on this day I don’t have the energy and it’s alright to walk it instead. But the next day when my body is ready it will run again, and it does.”

Alice realised early on in her eating disorder that the key to weight loss was through exercising **“I think the non-eating switched to the exercise control.”**

She had maintained a quite stringent exercise programme but was quite relaxed about adapting it to suit her pregnant condition.

“I remember being told it was important not to elevate your body temperature with exercise in the first trimester and I consciously thought if it was a hot day then I better not go to aerobics today. I did still run up until 5 months with Jessica but it was probably every second day and I cut the time down a bit (40 mins) and then after that I just walked and a bit of swimming.”

Effects of exercise on self-esteem

The women also commented on how exercise became an important part of their routine because they realised it made them feel good about themselves. Several commented on the positive effect exercising had on them. It enhanced their sense of well-being and was an effective antidote for any prevailing negativity they have towards themselves. This appeared to be just as important if not more so than the weight control factor. These positive feelings generated by the exercise were acknowledged as being vital to them.

Alice described how her sense of well-being was strongly correlated with having done her exercise for the day – usually involving getting up early and running or walking for approximately an hour.

“I think my self esteem of how I feel in a day is very much keyed into my exercise. If I go two days without exercising I just feel Yuck so that’s always been a way to cope so long as I get my exercise I feel better about myself and the day feels good.”

Because exercise helped the women feel good about them it has naturally provided the motivation to continue. Genevieve got into running as a weight control measure but then found it helped her depression so much that she continues today.

“I did get into running and found I was quite a good runner [marathon] and that it kept my weight pretty well controlled but it was good, not obsessive and excessive exercise...cos with the depression - running was the one thing I could get some self esteem from.”

Diana spoke of how it makes her feel great.

“I do it because I just love being outside, and I feel really good when I am outside. I still ensure I have the luxury of going out at least 2 or 3 times a week because I just love it.”

Most were able to link the two together that if they exercised it not only controlled their appetite but helped them feel good about themselves as well.

Caitlin realised how this worked for her.

“If you don’t exercise you lose the motivation to be fit, you tend to eat less sensibly. ...Because of a back injury I could not go to the gym and I could not run and that in turn has had a negative affect on me. There’s a feel good factor that goes with exercise.”

Throughout their lives whenever the weight issue surfaced again e.g. after the birth of their children many women stated they slipped easily into control mode by exercising. Exercise is noted in the literature as being the most commonly employed method of weight control among women with bulimia (Mond et al, 2004) but also appears to be a popular means of weight control with recovered women. Obligatory exercise has been hypothesised as reducing the risk of a clinical eating disorder among vulnerable individuals (Ackard et al, 2002) but as yet there has been no research into how women can use exercise as a means of recovery from an eating disorder by replacing one coping strategy with another that is more easily moderated, as the women in this study appear to do.

Hitting the exercise trail as soon as possible after delivery of their child

Many of the index group were very motivated to get back in shape once the baby was safely delivered and this can be the time when, according to the literature, that eating disorder behaviours can resurface (Franzen and Gerlinghoff, 1977; Welch et al, 1997; Stein and Fairburn, 1996; Morgan et al, 1999) though this is variable (Park, Senior and Stein, 2003). However for the women in this study, who had recovered, the non eating behaviours were not apparent but rather an emphasis on exercising that had been developed and relied upon during the recovery from the eating disorder.

Caitlin “After having David, I hit the exercise trail straight away, running ... I took up running to lose this weight and watched my food intake a lot and then the same with Patrick - I was a regular at the gym 4 times a week plus running to try and keep the weight down which I did and its only now that I look back at photos and think, gosh, I might have been overdoing it.”

Alice started exercising again 4 weeks after the birth of her first daughter “**I’d pack Jessica up and off we’d go to my aerobics classes and we walked - a lot of walking.**”

Exercise habits- reference group

Several of the reference group women also said they exercised to control their weight and had done so throughout their lives. These women – Emma, Anita, Patricia and Megan talked about their diet in terms of “low-fat” and “sensible eating”, “no rubbish” and had all exercised consistently throughout their lives.

Megan noted that she had exercised for weight control “In my 20s I did exercise – to keep my weight under control. Running. I probably biked earlier, and tennis and running more at university.” She now attends a gym in her local area on a regular basis.

Anita said she –“played netball in fact I was into any sport that was going really. I loved sport - I represented [her region] at netball, badminton, volleyball. I swam competitively - I probably stopped swimming training in 4th form, cricket – I played a bit of cricket.” She now continues to train for triathlons, does

tramping and takes long walks (uphill).

Emma also agreed she had kept her weight in check over the years with “sensible eating and exercise” however her weight crept up on a working holiday in her twenties when she took a job as a housekeeper in wealthy homes in Britain and had to diet.

“Overseas I got up to 10 stone so we went on the bread and water diet so we would toast our Vogels to try and make it taste better, I was cooking in wealthy people’s home so could eat all this nice food - so it did not work - so it wasn’t until I came back to N.Z. that I gradually started losing all the weight - [by playing sport].”

Obviously these women had, as many normal weight women do, used exercise and diet as a way to control their weight throughout their lives but did not appear to have become obsessive about it as a weight reduction strategy as had many of the index women when then had their eating disorder.

Gathering Information

Many of the women sought information about their condition so they could better understand it and make changes they needed in their lives. As an eating disorder usually brings secrecy and denial for most women this was therefore, not accomplished by going to the GP and asking for information and help for eating disorders but by accessing literature about it themselves.

Hannah related how she recovered this way-

“With self-diagnosis, self-analysis and extensive reading - I moved over a couple of years from being a compulsive eater [43 kg] to a healthy outlook and behaviour. The books I found helpful were [by] Geeneen Roth and Suzie Orbach.”

Ellie spoke of how she wished she had more information available to her during her younger years when she had the eating disorder because she believes it would have helped her.

“Right now I can say that I’m recovered. I can accept me for who I am, whereas before I could not accept me. And I think it’s not that, but I have

more information and know more about it - it actually makes you understand a lot more and it makes you wish those things were there when you needed it. And things could have been so different.”

Fiona also found information about her condition through reading women’s magazines though had never seen a doctor about the eating disorder when she had it nor had her parents taken her to the doctor despite being at a very low weight- **“I read about it first in a magazine article when I was about 17 and thought yes that’s what I had and once I had a name for it I would always read things about it if I came across them –mostly magazines. Looking back I could have really done with some counselling though I don’t know even then if I could have worked out why I was doing it – there was a lot wrong with my life as an adolescent but if I had got help it may have prevented some of the later stuff. I don’t think I could have put the eating disorder and abuse together as being linked in any way, it was only after six months of counselling that I was able to fit the pieces together in a more understandable way and its seems such a waste of my teenage years when I was so consumed by what I ate or did not eat rather than concentrating on the more important stuff.”**

Medication

Two women in the group were prescribed antidepressants for depression and found the medication helped with their eating disorder, though the women appear to have not discussed their eating disorder with their doctor just the depression.

While it is believed there is a lack of awareness of these disorders, accurate diagnosis can be undoubtedly hampered by women’s natural reluctance to disclose details of their behaviour in the absence of specific questions about dietary habits and attitudes to weight gain (Lemburg and Philips, 1989).

Hannah told me how Prozac had been a godsend when she first started on it at university and she has continued using it to this day (even during her two pregnancies). **“When I was prescribed Prozac for sleeplessness and depression at Varsity, I discovered that this would have helped me immensely to speed my recovery from compulsive eating.”**

Genevieve who became severely depressed after the breakup of a relationship and then her return to N.Z. said

“I was put on Aropax for depression and I think it helped with my [food] obsession and I started to eat for the right reasons, to nourish myself and look after myself and I see myself in a nicer light.”

Counselling

For some women it can be a long road through a variety of health professionals until they are ready to face what they may have been through and use it constructively. Diana spoke of how she had used various forms of counselling throughout her adult life to overcome an eating disorder, which began when she was a teenage girl living at home. She acknowledged that because her bulimia was so entrenched it took a variety of different types of treatments.

“The first professional help I sought was through a psychiatrist - at the time it did not make a huge difference to the frequency or the intensity of the bingeing but she gave me some information that I could use when I was ready to use it.” Diana later went to a psychologist and also tried hypnotherapy, which she stopped because **“I saw this big book about Freud and I thought I don’t like the look of this... and he started to fossick for some sexual abuse and I just could not even contemplate it at that stage.”**

For Diana **“each of the counsellors made a difference, but none by itself was the total turning point.”** She said it was finally having the strength to stand up for herself in her relationship and say what she needed and how her needs weren’t being met or respected.

“the turning point for me...was not the relationship I entered into –it was, the first time I’d actually sat, and ridden out someone’s huge disapproval of me. Cos until then I’d been a great pleaser, my father’s advice and guidance and coaching to please other people even at my own expense.” This resulted in her realising that **“this is the first time I’d had some sort of glimmer of an experience of not having to go to the fridge when I’m distressed about something.”**

Finding God

For Ellie it was **“finding God”** and the support of other church members that finally helped her through. **“I am actually a Christian now... I knew he was there for me. I started going to church and people started encouraging me and saying you know in a nice way “you look good today.”** She had felt a measure of acceptance and support from the church community that she had never experienced before particularly during her high school years **“It’s been...the support, that’s what I’m trying to say.... its just that love.”**

Unhelpful strategies tried and discarded

One strategy that was tried by one of the women was a support group called **“Overeaters Anonymous.”** Genevieve said she attended these meetings for 10 years (weight 45 - 50 kg) and then decided she had had enough of the emotional dependence she felt when belonging to this group.

“I finally felt free, I could make my own decisions around food and felt free emotionally and there was no dramatic increase in weight and I thought - Thank God! I have got out.” Genevieve said she found it all quite unhelpful. She met people there who were vomiting 12 times a day and she compared herself to them **“and I did not think I was that bad because I would only vomit 2-3 times a day.”**

It is surprising that someone can attend a support group for so long and no one there suggests that because there is no improvement, that professional help be obtained. To remain this long with the bulimia without any change may have been counterproductive to recovery. **“For me it wasn’t that good and I closed myself off from other potential avenues of help because in their literature it said it dealt with the worst cases that no one else can help and now I think it’s a shame because in that time I might have found someone or something that would have helped.”**

Support groups for eating disorders need to be monitored and have policies in place whereby if someone is not improving over a period of time that other interventions are suggested so that women can access a range of treatments that may be more helpful and lead to improvement.

2) Regression during times of stress

Sometimes the eating disorder becomes an entrenched coping strategy and this was seen more often in those women who had bulimia. They had experienced bulimic symptoms for a range of 6 to 20 years - Ellie (6 years), Fiona (9 years) and Genevieve and Diana (20 years). Some of the women commented on how they could still fall back into the pattern of eating disorder thinking in response to stress in their lives and this may have been because they had used the bulimia to cope with stressful events for so long that it had become habitual and they did not have alternative strategies in place to cope when something happened in their lives that concerned them.

This stress in their lives often related to their primary male –female relationship. Genevieve explained how her eating disorder would return to confront her over the years – **“There were stressful times... when I split up with my boyfriend and I would not eat.”**

A recent study revealed that sexually abused children were more likely to engage in food restriction when emotionally upset, the pursuit of thin body ideals and heightened purging behaviour (Wonderlich et al, 2000). This was the way out for Diana when things got tough.

Diana describing the deterioration of her marriage and her eating disorder - **“Some tension began to creep back into the marriage and the bulimia started off again...it [the bulimia] was a way out of feeling”**

Fiona had also noted in herself that she was unable to eat when emotionally upset. - **“I’m aware of that tendency still in me whenever I get very emotional or angry at my husband –the first thing I do is stop eating - I literally cannot eat - it becomes a physical impossibility. No one else provokes that reaction in me though.”**

Genevieve – said she recently had big row with her husband and was concerned that her eating disorder (bulimia) would return and she was going out of control (she had gone from 52 to 53 kg).

3) Using the signals from the eating disorder

Diana was able to frame her experiences in a way that was very helpful to her in dealing with stress in her relationships, which she had identified as sparking off her eating disorder behaviours.

“And that seemed to be the key to leaving it behind was to stop battling with it, and to look at the messages it was giving me. After a while I began to see it as... a red flashing light if you like, that if I did not take notice of the things I needed to take notice of ... that congruence between my thoughts, my feelings and my actions- if I started to let those get out of alignment then I’d start to get this really odd craving for food... I would binge and vomit and get right into that cycle. So by changing the bulimia and seeing it as something that could educate me, when I decided to stop battling it and try and use it - I started to be able to see what it had to offer, in terms of getting me to notice of when my life was ... when I was neglecting basic things.”

Fiona found that in the last few years of her eating disorder she was only vomiting in response to a stressful occurrence and realised that she was doing this as a means of avoidance rather than have to deal with the actual issue. **“I did come to realise I was only vomiting in the end when something went wrong or I was hurt or angry and I suppose I have always had trouble telling people what is wrong or if they have upset me... I think there was never any space when I was a child to let these feelings out, let alone have them acknowledged.”**

4) Learning to trust

Diana explained how she had found a way to have a lot more trust in her body since realising the impetus for the eating disorder and how she could use it to make positive changes in her life.

“I can trust now that if I’m hungry for food that I can trust what I’m hungry for, and when I’ve had enough. The odd time I get it wrong like we all do and I then realised that I’ve eaten a bit much but it doesn’t concern me like it used to, I just trust that my body will balance itself. And with that trust my skin is so much more comfortable and I’m probably bearable to be around as a partner now - I was pretty hard going before.”

Fiona also spoke of the need to be more in tune with her body and stop fighting it. **“I think as you get older you learn to listen more to the messages your body gives you and I know I can trust those messages now and I even listen out for them instead of continually overriding them which is what I had to do when I had the anorexia... I’m much more gentle with myself and more forgiving if I screw up.”**

Summary of recovery

The recovery process from an eating disorder can be short or long and involves the development of alternative coping strategies when the women felt they or their lives were not “measuring up.” This process involved the dimensions of using exercise (and other strategies) in a positive way to feel better about themselves, learning to trust their body and using the signals it gave them to deal with issues they once avoided by using their eating disorder. These alternative strategies fulfill (to a greater or lesser extent) the women’s overriding need to measure up – and alleviated feelings the women described as “not being good enough” or “being one of life’s bigger failures.” Each woman had differing strategies she used, though exercise was predominant for most women and eventually she learnt to accept herself or “see myself in a more positive light.” As with all new processes there are times when the women regressed under stress but eventually the alternative strategies became integrated into their lives as preferred and more constructive long-term strategies. These strategies coupled with a developing trust they now had in themselves would eventually completely supplant the eating disorder behaviours.

CHAPTER SEVEN

“Doing the right thing”

A third conceptual category identified was the woman’s concern that she did the right thing (making sure she “measured up”) once she discovered she was pregnant. This was evident throughout the pregnancy and with the feeding of their infant. The majority of mothers in this index group was particularly focused on eating the right foods and experienced a subsequent lessening of their concern for weight gain. This focus on doing everything right was also seen in the commitment to breastfeed and to introduce only nutritious foods for baby. Several women spoke of sourcing the nutritional information they felt they needed at this time from books when it was not forthcoming from their doctor or midwife. Weight control was not deemed an important factor as the concern now centred on having a healthy baby and “doing the right thing” by their child. This main category is slightly larger than the other three main categories and as such has several sub-categories with the properties that relate to them. Before detailing the three sub-categories and their properties in this category I would like to briefly note that conception was “not a problem” for any of the women with previous eating disorders. This was surprising to the women, as some had not had periods for months or even years while they had their eating disorder and had assumed it would present a difficulty.

As Isobel said **“I’ve never had any conception problems- its amazing really considering what I’d been doing to myself.”**

Also Fiona, who told me her periods stopped for four years whilst she was at a very low bodyweight. Several women were still light when conception occurred (eg. Genevieve 52kg, Diana 53kg, Ellie 38kg and Fiona 52kg) but despite this all infants were healthy at birth and ranged in weight from a low of 2.68 (Diana), to a high of 4.3kg (Ellie).

Sub-categories of “Doing the right thing” (pregnancy and first year of the infants life) are as follows:

1. "EATING RIGHT FOR THE BABY" **Properties:** Consciousness of nutritional needs
Lack of advice
Weight gain –"all quite legitimate"
Seeking out the information needed to make the right choices

2. "FEEDING RIGHT" (BABY) **Properties:** Breastfeeding
"Doing what's best for baby"
Solids introduction

This chapter concludes the reference group contributions so a summary of the reference group is included here as well as a discussion of how we categorise women as eating disordered or not.

Eating right for the baby

Consciousness of nutrition needs

Most of women in my study spoke of how they were very conscious of "eating right" because of the baby once they knew they were pregnant. The prospect of gaining weight faded into much less significance than it had assumed previously. Their priority was a healthy baby and their concern was now providing for the developing fetus.

Alice said, **"I was more interested in a healthy baby... and trying to eat the right things."**

Other women spoke of looking at their diet and making sure they were obtaining good nutrition especially if they had been blasé about it in the past.

Genevieve said, **"I did try and eat more vegetables."**

Bev recalled trying to eat nutritious food despite feeling unwell with morning sickness **"when I was feeling well I would always make sure I had fruit, vegetables, fish – all the goodies."**

Caitlin also recalls trying to eat better at this time **"I think I just consciously tried to eat sensibly."**

Fiona was concerned because she had a brother who had "special needs" so that

she sought out information about avoiding this disorder in her own child. **“I read about nutrition during pregnancy in a book and went to the chemist to get some folate as my brother is handicapped due to a neural tubal defect. The chemist was concerned I was taking this folate while pregnant and advised me against it, I still took it because I did not think he knew much. This was 21 years ago – long before it became standard practice. I did not tell the doctor, though he knew about my brother.”** Fiona felt she was going to have to take responsibility for her nutrition in pregnancy because no information was forthcoming from the doctor or nurses and she was concerned about giving birth to a child with special needs. Nutrition was still something that she was not comfortable bringing up at her monthly antenatal appointments.

“He always seemed so busy and taking the blood pressure and measuring weight seemed paramount... I did not like to ask as perhaps it was meant to be obvious what I should be eating”

Lack of advice from health professionals

Several of the women spoke of how they would have liked more (or any) advice on their nutrition during the pregnancy.

Genevieve said **“the midwife saw what I was having for lunch and said I was obviously aware of nutrition so she thought I did not need any help with nutrition. So her and I did not talk very much about it after that... I would have liked it [nutritional advice].”**

Alice likewise said she never received any nutritional advice whatsoever from her doctor or midwife during her pregnancy

“No - no advice about what to eat or not to eat”

Fiona said she was expecting some advice when she was first pregnant but did not like to ask when nobody said anything.

“I would have liked to talk to the doctor or nurse about it but no, nothing from the doctor I was seeing with any of the pregnancies”

Several women acknowledged they may have received pamphlets on nutrition when they were pregnant.

Bev said **“I could have been given pamphlets and I did go to antenatal classes and learn how to bath, feed and change the baby but there wasn’t actually a class when you got pregnant about nutrition.”**

Concerns

Several women had concerns about the nutrition of their baby while pregnant due to being unable to eat much (morning sickness) or vomiting. They did not receive any nutritional advice but were assured by the doctors concerned that the babies would grow despite the lack of food and weight going on.

Fiona **“I was very worried I was not putting on enough weight (total pregnancy weight gain 5 kg) because of morning sickness but the doctor was unconcerned and ...later when my mother started on at me again about my weight and the terrible things it was doing to my baby I became quite upset so the doctor did oestriol tests and they came back very high – which he said was good and not to worry (Baby weight 3.6 kg).**

Another woman, Diana had her concerns about the nutrition of the baby and lack of weight gain (~6-7 kg) allayed by

“a very kindly G.P. who said that babies are real little parasites and that not to worry about it, it would be fine and it would be getting what it needed.”

While this may be true for some nutrients from maternal stores it is not true for all nutrients and there is a requirement on the mother to supply the balance in her diet. Good nutrition during pregnancy is considered essential for a healthy baby. Maternal dietary quality does influence infant outcomes as demonstrated by Burke et al, 1993 (cited in Robb-Todter, 1996); Gluckman and Hanson, (2004); Harding, (2001). It is known that the fetus can effectively utilise some nutrients from the mother's stores but likewise it is also reliant on other nutrients being supplied solely from the mother's diet. If these nutrients are in short supply due to an inadequate maternal diet then the fetus's growth and development will be compromised (Robb-Todter, 1996).

Several of the women had specialist obstetrician care during their pregnancies but were not asked about their diet or given nutritional advice. Likewise they did not ask for any advice or tell the doctor or lead carer about their previous eating disorder.

Hannah remembered that the [private] medical specialist she saw throughout both her pregnancies said nothing about nutrition. She commenced her first pregnancy

at a low weight but **“the obstetrician did not give nutritional advice. I did not tell him or ask him anything, except was it ok to have a glass of wine.”**

This was the case with all of the women avoiding telling their doctor or midwives about their previous eating disorder except Lorraine (who became pregnant as a teenager and the family doctor already knew because he had been treating her for the eating disorder). Several authors (Van der Spuy, 1988, Stewart et al, 1990) have noted that women are notoriously reticent about previous dysfunctional eating and doctors have to ask them about it. The women may be reluctant to disclose it due to guilt, embarrassment or fear that they be put under too much scrutiny.

What the reference group said

About conception Several women said they experienced delays in conceiving and two (Patricia and Anita) required specialist intervention. Both these women were significantly underweight when trying to conceive. Anita had taken 4 years to conceive including one year on fertility treatment (Clomiphene) and was looking to in-vitro fertilisation before she finally fell pregnant. She then put on a very small amount of weight throughout the whole pregnancy (2.5kg) but said the specialist never once discussed her diet –**“he only measured the growth of the fetus and was most concerned about that”** inducing 3 weeks early (Baby weight 2.78 kg).

Whilst Patricia (5½ stone and 5'4'' - BMI of around 13) tried for a couple of years to conceive and was then given fertility treatment which enabled her to become pregnant. Neither woman's GP or the Fertility specialist asked about their diet and or weight.

One of the two women had a small-for-date's infant who spent time in SCUBU due to fetal distress and a high body temperature. This is in line with van der Spuy et al (1988) findings, which found the women in whom ovulation had been induced, had a higher risk of babies who were small for dates (25%) and, in those who were underweight, the risk was greatest (54%). As outlined in the literature review there is an increased prevalence of women with inadequate dietary intake and/or abnormal eating behaviours among infertility clinic patients, which can

have serious consequences for the health of the infant both pre-natally and post-natally.

About nutritional advice

Nearly all the women in the reference group did not perceive a need for any nutritional information when they were pregnant. Megan said she did not need any ***“No – did not really want any / sort of knew / you get a small amount of nutritional training in your medical degree, Most pregnant women get a pregnancy package- with info about eating – but I didn’t.”***

Emma thought it was obvious what you should be eating when you were pregnant ***“I think we were given pamphlets back then but I think it was pretty obvious what you should eat - I didn’t eat for two.”***

Anna thought good nutrition was something you did not need to be told about if you had been brought up with it. ***“I suppose if you’ve been brought up with sensible nutrition it just comes naturally – it’s commonsense.”***

But Cate did want advice on nutrition and did not get any.

“I did not eat as much and as healthily as I should have but I did not get that advice and I would have liked some - when I look at pictures I did look underweight and unwell all I had was this round tummy and nothing else, no extra.”

One woman, (Anita) a health professional who was putting on very little weight (2.5 kg total) did not want any nutritional advice nor, for that matter, get any from her GP or specialist.

“I guess the doctor would have said are you eating normally but I was under a specialist and he was more concerned with the baby’s measurements and checking he was growing. I was induced three weeks early due to [the baby’s] failure to thrive. They had concerns about my lack of weight gain.”

I found a couple of the women in this reference group appeared to be defensive about the amount of food they consumed during their pregnancies. However they did not seem overly concerned about their low weight gains during the pregnancy.

Weight Gain -“all quite legitimate”

For most of the women in the index group, weight gain was not a problem during pregnancy. They said even as the weight increased it did not provoke too much anxiety as the desire for a healthy baby superceded it.

Isobel said she was not worried **“It wasn’t a big worry cos I was only really worried about my pregnancy.”**

Alice also felt unconcerned about her weight gain **“I was more interested in a healthy baby [rather than worrying about weight gain].”**

Likewise Fiona said, **“Having a healthy baby was No. 1 [priority] for me.”**

Several women said that the pregnancy role allowed them to relax and they were not worried about their food intake and weight for the first time they could remember.

Caitlin recalled how she relaxed once she became pregnant.

“I was still very conscious of my figure and shape prior to getting pregnant and I can tell when I look at the photos how I was then – I was in pretty good shape you know. So I was quite disciplined. But once I was pregnant I think I relaxed. Yeah I did relax. I would not worry about if I had dessert or ate between meals.”

Likewise Alice was unconcerned about her weight gain (which ended up being 18 kgs)

“... it went on of its own accord really, just gradually. I was happy, my doctor was happy; he never said you’re putting on too much weight. If he was happy, I was happy, I just went along with what was happening.”

Putting on weight due to pregnancy was seen as a legitimate means to an end for most women. It was a time in their lives when weight gain was the best form of “measuring up” and these women were certainly focused on doing that.

Diana **“...I did not have any concern about gaining weight with either of my pregnancies...No it all felt quite legitimate.”**

And Genevieve said she was quite OK about how her weight went on **“I was aware of it of course and did gain weight steadily during the pregnancy but I was really OK about it.”**

Bev acknowledged she relaxed completely when she was pregnant and was totally unconcerned about her weight, which **“ballooned”**.

“I just ate what I felt like and that is why I piled on the weight. Being weighed did not bother me because I was pregnant.” (Gained 25 kg) she said **“People kept telling me - you have to eat this and you have to eat that when you are pregnant so I just kept on eating”**

Looking back Bev said she felt her immaturity and lack of nutritional knowledge contributed to how much weight she put on during her first pregnancy. She wanted to do the right thing by eating all the right foods but did not know how to do it without a huge increase in weight. She says she was a lot smarter with subsequent pregnancies after she accessed the information in the library.

Genevieve who had spent twenty years locked into a desperate cycle of restricting, bingeing and vomiting to limit weight gain had this to say, **“I gained about 18 kg (went from 52-70 kg). I did gain weight steadily during the pregnancy but was really ok about it amazingly enough, I was also quite proud of it. And was quite curious about what it would be like to not only be pregnant but look pregnant and I think really positive about it as well... look like Catherine Zeta Jones when she was pregnant (which I did not!)... But I just remember thinking I would be this glamorous, beautiful, pregnant woman.”**

For the majority of women in my sample recovered from an eating disorder the fear of gaining weight was not an important factor during their pregnancies and for many it was the first time they had actually given themselves permission to relax about their body weight since their eating disorder began. Many of the women recalled enjoying the experience and being very motivated with producing a healthy baby rather than focusing on themselves and their weight. Pregnancy appeared to be a time when they relaxed their control over their bodies or it was superseded by a desire to provide adequate nutrition for their developing baby and also because it is considered **“legitimate”** for a woman’s body to get larger at this

time (Fairburn and Welch, 1990). Because weight gain is positively endorsed at this time there can be a rebound effect with several of the women having very large weight gains during the pregnancy, this may be significant as it shows the women may have finally given up trying to maintain a bodyweight well below their set point. Also because it is considered normal for the pregnant body to grow and swell up, that underlying negativity they felt previously about not measuring up, is completely overridden throughout this time because they are able to see their bodies in a different light i.e. they are measuring up when they get bigger.

Fear of weight gain

But a few of the women were still concerned and felt distressed by the weight gain. This may have been because they were still within the eating disorder hold like Ellie who was still very light when she conceived (38kg). Her doctor told her that she had to put on 4 stone (25 kg).

Ellie **“It ended up being 4 stone on, it was like 2 stone had to go back on for me and then on top of that the baby was another one and a half stone. It was hard, very hard.”** (Mother weighed 60kg at the end of pregnancy.)

Hannah also struggled with the whole weight gain thing - **“I gained a lot of weight! 20 kg. By the end I weighed 65 kg. I hated it and was very uncomfortable... I was disgusted with my eating and my weight gain.”** (Baby weight 3.9 kg)

Jess said she wasn't that concerned during the pregnancy but looking back she was horrified with how much weight she had gained **“I gained 30 kg. I saw pregnancy as an excuse to eat. I ate excessively”** (baby weighed 3.6 kg.). With her next pregnancy she was in fear of doing the same and only gained one-kilo. Saying **‘I was obsessed with it though – not to put on 30kg like last time... and was fortunate Sam was born a healthy 7lb 12oz [3.5kg].’**

This type of excess weight gain during pregnancy has been noted in the literature. According to Fairburn and Welch (1990), women who are familiar with dieting are known to have episodes of overeating during pregnancy and excessive weight

gain in pregnancy can be sometimes attributed to this. Overeating in these women can be attributed to hunger, negative mood or the abandonment of previous dietary restraint. The index women in my study who put on more than the upper limit of normal weight in their pregnancies said they were relaxing about their usual diet and having anything they wanted. They recalled consuming desserts, cakes and takeaways whenever they felt like it.

Genevieve said **“I did eat a lot of sweet things during the first pregnancy.”**

Ellie who was told by her Doctor she had to put on 4 stone during her first pregnancy described her diet: **“When I first started [the pregnancy] I would have mini fried doughnuts, there was the cream, all the sugary foods, McDonalds, chocolate, KFC and chips.”**

At about 6 months gestation she was checked for pregnancy diabetes and put into hospital and **“the dieticians put me on a good diet”** as well she had to take insulin until her baby was born (4.3 kg).

Bev attributes a lot of her weight gain to fizzy drink **“that is probably a lot of the weight gain as I would drink fizzy every day - I was only 19, I did not actually know much about nutrition or the needs of a growing fetus.... I ate more rubbish than I should have.”**

Reiff and Reiff, (1992) assert that women who have had an eating disorder do not necessarily have a good knowledge of nutrition. They found that the women can have food consumption patterns that are unhealthy, unusual or nutritionally unbalanced.

Whether it was lack of knowledge (as a couple of the women indicated) that resulted in the women eating more, high fat, low nutrient dense food during their pregnancy or else knowing what foods they should be emphasising but simply giving themselves license to eat more “junk food” because the weight gain was “legitimated” is not clear. However, for several of the women who had a previous eating disorder the relaxation of concern over their weight that the pregnancy afforded, did lead them to eat a lot more of the types of foods previously off limits in their diets.

The following table (Table 2) gives the prepregnancy and pregnancy weight gain data for the index group of women I studied i.e. those who have a previous eating disorder. Other information such as the type of eating disorder they had and the length of recovery and their present weight is also included.

Table 2: Index group weights/history

	Alice	Bev	Caitlin	Diana	Ellie	Fiona	Genevieve	Hannah	Isobel	Jess
Lowest body wgt/kg with eating disorder	45.8 BMI 15.8	47.6 BMI 18.0	58 BMI 20.0	47 BMI 19.2	38 BMI 15.3	35 BMI 12.7	48 BMI 18.7	43 BMI 16.6	47 BMI 17.2	Not given
Type of eating disorder (self report)	anorexia nervosa	anorexia nervosa	eating disorder-NOS	anorexia nervosa/ bulimia	bulimia/ anorexia nervosa	anorexia nervosa/ bulimia	bulimia	anorexia nervosa	anorexia nervosa	Eating disorder-NOS
Time since Recovery	10 years	2years	5years	Relapsed during pregnancy	Just recovered bulimia/ anorexia	1 year	3 years	3 years	9years	Not given
Conception	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Pre pregnancy wgt/ kg BMI	60.1 BMI 20.9	50.8 BMI 19.2	60.3 BMI 20.87	55 BMI 22.3	38 BMI 15.3	54 BMI 19.6	52 BMI 20.3	44 BMI 16.9	63 BMI 21.7	63 BMI 24.3
Weight Gain during Pregnancy/kg	20 kg Tox	19kg Tox	12.7kg	~6-7kg	24kg Gest Diabetes	6 kg	18	20kg	15	30kg
Baby's birth weight/gms	3480 induced	3317 induced over	2920	2680 induced baby not gaining	4300 baby had breathing difficulties	3600	3850	3891	3260	3572
Baby's condition at birth/apgar if known	Good	Good 9/10	Stressed 7/10	Good	Good	Good 9/10	Good	Good 9/10	Good	Good
Breastfeeding	4 mths	6mths	7mths	9 mths	9mths	9mth	12 mths	4mths	10mth	Yes
Solids	5 mths	4mths	5mths	4-6mth	2-3 mths	3-4mths	5.5mths	4mths	4mths	4mths
Growth by 1 year	Normal	>normal	normal	normal	>normal	>normal	normal	>normal	normal	normal
Current weight	62 BMI 21.5	62 BMI 23.5	65 BMI 22.6	49 BMI 19.7	52 BMI 20.9	57 BMI 20.7	52 BMI 20.3	46kg BMI 17.7	76 BMI 23.0	80 BMI 31
Current age	39-43	43	45	39-43	34-38	46	38	27	46	44
Eating disorder in child		2 child eating disorder				1 child eating disorder			1 child eating disorder	

Four of the ten women in my index group still had a BMI of less than 20 when they conceived although most were only marginally below. A low BMI is said to have a more significant influence on their infant's birth weight than any other factors and those women with a low pre-pregnancy weights are more dependent on achieving a good weight gain during the pregnancy than those who are better nourished or have a higher BMI (I.O.M. cited in N.Z. Food and Nutrition

Guidelines for Healthy Pregnant Women, (1995). In my index group of women, the BMIs of the mothers at conception did not predict how big their babies would be nor did the length of time that elapsed since recovery from the eating disorder. The women with the lowest BMIs had some of the heaviest babies. The relatively large pregnancy weight gains in this group may account for the normal to high birth weights of the infants. Only two women gained weight in the recommended range. The majority of women in the index group gained more than recommended i.e. six of the ten women gained 18-30kg (more than the upper limit of recommended weight gains for their BMI). Two women gained significantly less weight than recommended i.e. gained only half of the minimum kilograms recommended for their BMI and one of these women had a baby with a birth weight below 3000gms.

While it is known that women with eating disorders tend to gain less weight and deliver babies of lower weight (Stewart et al, 1987), less is known about weight gains in pregnancy with “recovered” women. In my group of recovered women most were gaining more than the upper limit recommended and I believe it was due to their acknowledgement that it was legitimate to put on weight at this time. This gave the women “the right to eat” and they therefore relaxed any eating restraint or exercise control they had prior to the pregnancy. This relaxing of eating restraint was not seen in the reference women, indicating other factors or motivations were involved in their eating patterns that were unaffected by pregnancy.

Weight gain and reference women

All of the women in this group gained less than the minimum recommended pregnancy weight (see table 2, page 106) for recommended weight gains according to pre-pregnancy BMI's and Table 3 page 87 for Reference women's actual weight gains during pregnancy.) Whether some women in my reference sample were trying to limit weight gain or being unable to eat very much due to nausea (present in both groups of women) or other reasons is unclear but they all had low to very low weight gains. They all reported that no one asked anything about their nutrition or diet during their pregnancy. None of the women expressed any concern about how little they gained during pregnancy though a couple of women mentioned their doctor being concerned. Fairburn and Welch (1990) reported that 40% of primiparous “normal” women were afraid of

gaining too much weight during their pregnancy. Pregnancy outcomes are known to be better for women who gain weight in the recommended weight range than those who gain above or below these ranges (Robb-Todter, 1996). Why health professionals handling the care of some of these women during their pregnancy didn't question them about their nutrition and low weight gain remains unknown, but perhaps is reflective of previous lack of concern regarding nutritional needs during pregnancy.

Table 3-Reference Group weights/ BMIs etc

	Anna	Brenda	Cate	Donna	Emma	Megan	Pat	Anita
Lowest body wgt/kg (Since adolescence)	47.6 BMI 18.0	49.9 BMI 17.5	50.0 BMI 18.9	53.9 BMI 19.5	53.9 BMI 18.0	54 BMI 18.7	35 BMI 13.2	50 BMI 17.3
Pre pregnancy weight kg BMI	52 19.7	57 20.1	52 19.7	54 19.6	54 18.7	57 19.7	36 13.7 Fertility treatment	Unsure (low) Fertility treatment
Weight Gain during Pregnancy/kg	6.35	6.4	6	8	12	11	~6 kg	2.5 kg
Baby's birth weight/kg	2.4	3.9	3.6	3.2	3.395	3.520	3.640	2.778 (induced -lack wgt gain- SCUBU
Breastfeeding Supplementing With bottle	6 wks	1 year	9 mths	10 mths	6 mths suppl by 2 wks	9 mths	9 mths suppl by 3mths	9 mths
Growth at 1 year	<normal	normal	<normal	<normal	normal	normal	<normal	<normal
Current weight	Unsure BMI ~23.5	68 BMI 23.8	62 BMI 23.5	63.5 BMI 23.0	52 BMI 17.4	57 BMI 19.7	45 BMI 17.0	52 BMI 17.9
Current age	48	48	41	51	43	40	46	44

The **reference group** was characterised by the women **all gaining less than the minimum recommended weight gain for their BMI** (though 2 women gained close to the minimum).

Pregnancy Weight Gain recommendations

The American Institute of Medicine (1990) has formulated recommendations for gestational weight gain based on pre-pregnancy BMI's for American women (Table 4). So the total weight gain during pregnancy for women who are

underweight should be more than for women who are an ideal weight or overweight. Whilst no such recommendations have been made for N.Z. women to date, these recommended weight gains are considered good guidelines for all western women and are adopted by MOH in New Zealand.

Table 4
Recommended Total Weight Gain Ranges for Pregnant Women by Pre-pregnancy Body mass Index (BMI)

	Weight for Height Category	Recommended total weight gain (kg)
Low	BMI<19.8	12.5-18
Normal	BMI19.8-26.0	11.5-16
High	BMI>26.0-29.0	7-11.5

The figures in table 4 have been developed by the American Institute of Medicine and have used slightly differing BMI ranges to those used in N.Z.

According to the N.Z. Food and Nutrition Guidelines for Healthy Pregnancy (Ministry of Health, 1995) maternal pre-pregnancy weight has a more significant influence on infant birth weight than any other factors such as height. Women who are thinner before pregnancy tend to have babies that are smaller than those of their heavier counterparts, even with the same gestational weight gain (Institute of Medicine, 1990).

The N.Z. guidelines recommend that women who are planning a pregnancy should try and be adequately nourished and achieve a BMI of between 20-25 kg/m² as women with a BMI of <20 kg/m² are at an increased risk of having a low birth weight (LBW) infant (Wynn et al, 1991). Those women with a low pre-pregnancy weight are more dependent on achieving a good weight gain during the pregnancy than those who are better nourished or have a higher BMI.

Once a woman is said to be recovered from an eating disorder it is unlikely that her nutrition will improve along with her weight unless she receives specific and individualised help with planning a balanced and healthy diet (Reiff and Reiff, 1992). An American study (Robb-Todter, 1996) also found that many women do

not receive adequate individualised nutritional care during pregnancy with maternity caregivers' efforts at prenatal nutrition education amounting to no more than "vague admonishments to eat right" (Levine as cited in Robb-Todter, 1996). This lack of information from the health professional involved with the woman's pregnancy led to some of the index women becoming proactive in accessing the information themselves when they needed it as it was not forthcoming from the GP or midwife.

Seeking out the information needed to make the right choices

Many of the women in this study with a previous eating disorder decided to search out the information they felt they needed to know regarding nutrition themselves. This was said to be done either during the pregnancy or afterwards prior to subsequent pregnancies.

Ellie decided after the birth of her first child to look further into nutrition and health area. **"I actually ended up doing a correspondence course in nutrition and fitness"**

Bev who did not want to put on the huge amount of weight she had with her first, resorted to the library to find out what she needed to know about diet and pregnancy **"with subsequent pregnancies I went to the library and got books out ... and started looking at the foods that were nourishing and low-fat."**

As did Fiona **"I would have liked some professional to go over diet in pregnancy-nobody seemed interested in that – it was just your weight and blood pressure. I recall looking some things up in the library and buying a couple of books"**

Diana also bought the information in a book

"I bought a book on something about that (diet during pregnancy). I remember reading, so I had some guidelines on what to avoid."

Women appear to be much more willing to read about nutrition in pregnancy but are very coy about discussing it with their midwife or doctor particularly if they think it may indicate they have a problem with it.

A danger in the women not having individualised nutritional advice and care is that with a previous eating disorder there may be some woman who can be very selective about which advice they read and adhere to regarding pregnancy and diet.

Hannah was 45 kgs at the beginning of her pregnancy and said **“I read pregnancy books and they said not to increase food intake by much. I found that hard.”**

Two of the women said they believed they were doing OK without any additional advice as they felt they were quite knowledgeable about nutrition anyway.

Caitlin **“I got advice to keep your iron intake up probably but I can’t remember anything much more than that, I think I thought I was doing OK.”**

Alice **“I’m sure information was given out at Parents Centre and I would have read it but I don’t remember making any significant changes because of it because I was doing the right thing anyway.”**

Some doctors/midwives may have been put off giving any nutritional advice because many of the women had tertiary qualifications in health or teaching fields and it may have been assumed they would know what they needed to regarding nutrition during their pregnancy.

Who wants it (nutritional information)

The women who sought out the information on nutrition in pregnancy appeared to be the ones who were very focused on doing “everything right” and many of the women with a previous eating disorder fitted into this category. Several of them had good basic knowledge about healthy eating but most would have liked some form of reassurance and guidance with nutrition throughout their pregnancy. Whereas several women in the reference group made statements like *“its commonsense”* *“I think it was pretty obvious what you should eat”*, *“- If you’ve been brought up with sensible nutrition it just comes naturally”* these same women went on to have low pregnancy weight gains and some difficulty with both breastfeeding and solids feeding.

Robb-Todter (1996) believes given the unpredictable and individual nature of gestational weight gain, it would be better for prenatal caregivers to focus on the quality of the woman's diet rather than her weight gain. She says, changing the emphasis of prenatal care away from weight gain to nutrition is likely to do much to benefit women and improve pregnancy outcomes and will be more positive and less threatening for those women who can be sidetracked by weight issues.

Two of the ten women in the study with a previous eating disorder had problems with diabetes. One woman became a confirmed diabetic within a year after the birth of her child and the other had gestational diabetes and now has to control her blood sugar level with diet and testing. Both the second woman's children were born large and with neonatal hypoglycaemia, the second child spending a month in Starship Children's Hospital after birth.

Feeding Right

Breastfeeding "Doing what's best for baby"

Breastfeeding was successful and continued for over six months for the majority of the women in my study. This differs from a previous N.Z. study by Waugh and Bulik (1999), conducted in Canterbury, among ten mothers with a previously diagnosed anorexia nervosa or bulimia nervosa and a reference group of ten women. The authors suggest that particular support may be necessary for the woman with a past or current eating disorder to assist her with the thoughts and feelings associated with breast-feeding. However none of the index women in my study mentioned any feelings of embarrassment or being uncomfortable about breastfeeding although two women in the reference group did.

All the women with a previous eating disorder said they had no problems with breastfeeding and most fed their infant for 6-9 months and were happy with their weight gains.

Diana "Breastfed them both to about 9 months and 12 months and towards the end would be topped up with a bit of formula. I used to express milk rather than use formula. I just felt like part of it was intuition... things went along really well, they're both healthy children."

Isobel breastfed for 10 months with a bottle being introduced at 8 months when she went back to work **“yeah she always put on weight and had always very healthy, steady weight gains.”**

Despite Genevieve having a very entrenched eating disorder for many years prior to pregnancy it did not affect her baby’s weight or her ability to breastfeed him for 12 months, before falling pregnant again.

Genevieve **“they were both breastfed, luckily they took to breastfeeding really easily. Neither of them lost weight at the beginning -these guys just gained from the start.”**

Despite still not eating very much, one woman had surprisingly few problems with breastfeeding.

Hannah said **“the midwife expressed concern that my calorie and fluid intake was insufficient but there were no problems for me or the baby. Very happy, contented baby.”**

One woman acknowledged the belief that breastfeeding causes a faster rate of weight loss after the birth and this was an added bonus to wanting to breastfeed.

Caitlin **“I breastfed him for 7 months, some solids at 5 months- I was at home so I use to just feed-he was a good feeder. I was always quite happy to breastfeed because it meant I would lose weight. No, the nurturing thing [was the reason for breastfeeding] I mean I love breastfeeding, but that was an added bonus.”**

But for Alice, who used formula so she could attend a course when her daughter was 4 months, there was an unwanted early end to her breastfeeding.

“We thought she was quite happy being breastfed but when she started on the bottle her weight went right up... it was quicker, faster and obviously more filling and then only two days of that and she absolutely refused, and I remember holding her and she would go bright red in the face and push me away.... She probably wasn’t getting enough (breast milk) and she jumped up to the median [weight] and stayed there.”

Several women wondered if they were supplying sufficient milk to their infants. Fiona also had doubts about her ability to breastfeed her first especially as her mother wasn't supportive of the idea.

“He wanted feeding all the time though and I got quite worn out and could not do anything else besides feed him. I was concerned he wasn't getting enough from me and my milk wasn't enough for him. My mother was always telling me he needed more (like give him a bottle) she did not think much of breastfeeding. I persevered for 9 months though and it did get easier. I never supplemented with any formula and his weight gains were good – I suppose if they weren't I may have been tempted to supplement early on.” Fiona said it was a real struggle to persevere with the breastfeeding with the negative advice from her mother about how her baby was still hungry and she was “starving him” but Fiona said she knew she had to do the very best thing possible for her baby. So despite the comments from her mother and even the Plunket nurse suggesting a supplementary bottle may help settle him for longer, she continued. Fiona went on to successfully breastfeed her other children but recalls that first time as being fraught with self-doubt and misgivings.

Two women finished breastfeeding at 4 months, the other 8 women continued for 6 to 12 months. The mother whose baby refused to breastfeed after receiving a bottle when she had to be away for the day at a course was quite distressed about it as she explained that she knew the breast was better and she wanted to do the right thing by her baby but could not persuade her back onto it

“I actually got quite upset I wasn't breastfeeding and I felt very self-conscious about that going into the public, here I was a health professional feeding my baby a bottle.”

This perception of public scrutiny and being judged as a poor mother was indicative of the increased pressure the women felt about always doing the right thing and “measuring up” to predefined standards set by them or someone else.

Breastfeeding and Reference Group

Two of the 8 reference women did not want to breastfeed. Anna said she “hated breastfeeding” and “got shot of it as soon as possible.” Anna didn't make any reference to difficulty with supply or technique but rather that she didn't like the physical act. “Michaela – bottle as soon as I possibly could (laugh) about 6

weeks. I just did not like it, I hated it. I was quite comfortable with the sterilising, I'd still do it."

It has been noted in the literature that women who have an eating disorder including those who are in remission are more likely to have difficulties with the act of breastfeeding due to self-consciousness about their bodies (Heatherton and Baumeister, 1991; Waugh and Bulik, 1999; Hodes et al, 1997 and Foster et al, 1990). Stein and Fairburn, (1989) have also commented on the likelihood of insufficient milk in women on a low kilojoule diet or if bulimic as well as discomfort and embarrassment with the physical act known to be associated with women who have an eating disorder. However it was in the reference group (rather than the index group of recovered women) that the difficulties with breastfeeding emerged.

Emma had difficulty breastfeeding and said her baby was not gaining weight. She lost confidence in her ability to breastfeed early on and did not want to continue. "No, I was not very good at feeding my children – he ended up at the Karitane unit because he wasn't putting on weight and he ended up on a bottle fairly early on and then he started to put on weight... and Courtney about the same - I was supplementing by about a couple of weeks. With Courtney I wasn't even going to be bothered breastfeeding so I might not have even fed her that long" Several women spoke of needing to supplement breastfeeding with a bottle early in the baby's first few months.

Pat explained how breastfeeding went for her "he was breastfed for the first three months but I got desperate I had breast abscesses and you always have that tin in the cupboard so I was quite stressed out with a baby that cried quite a lot at night so we just concluded he must be hungry and started supplementing... first it was his night feeds and then it went into the day as well."

The other mothers did successfully breastfeed for up to a year. One mother avoided cow's milk for 2 years because of a family history of eczema and asthma and switched to soymilk for her infant after the first year of solely breastfeeding. On the whole, the women in this reference group appeared to place less pressure

on themselves regarding breastfeeding and seemed quite comfortable with the decisions they had to make if breastfeeding was not working for them. They were much less likely to justify what they did or did not do.

Introducing solids

Nutritional information was much more readily available during the first year of the infant's life than it was pre-conception or during the pregnancy. The women said they received all the advice and information they needed from the Plunket nurse, pamphlets, books or their support networks including family.

Alice said **"I got lots of pamphlets (from the Plunket nurse) and I remember reading everything and I went by Penelope Leach... and just did everything by the book. I cooked up lots of veges and juice from the meat. I knew she needed more iron now and just did everything I was told."**

Fiona recalled making all her baby's food at home **"The Plunket nurse and my mother were very quick to recommend what to do next with feeding. I remember moulting up all his veges and ground meat - I made all his food at home - I did not give him much in the way of bought baby food."**

Diana reiterated how Plunket and her mother were a great help with advice on what to do with feeding her baby. **"I was very much guided by Plunket... I know I did it pretty much by the book and no sooner-pureed vegetables, mashed banana. It was always very much according to the guidelines, I felt well supported and my mother was a great help too."**

Genevieve emphasised the organic food she sourced for her infant and how he was not allowed any junk-food. Once again she made most of it herself. **"Organic rice cereal and then vegetables. By seven months he was getting a decent plate of moulised up vegetables, 3 meals a day and we were trying to keep it healthy for him.... we did not give him junk food or anything like it but he did get a big variety of fruits and vegetables and cereals - most of it I made."**

Hannah found that there were a lot of different ideas about feeding your child and she was comfortable just following her instincts **“I’ve always discussed feeding with other mothers and my doctor but everyone had different ideas so in the end I just did what suited me and the child best.”**

Most of the women in this group were using fresh fruit, meat and vegetables, which they cooked, pureed or mashed up for their babies. Several mentioned with pride how their baby never had canned or bottled baby food from the supermarket. This included women who had recently given birth so was not just a practice reflective of the older women in the study. Most if not all women spoke in terms of how their infant thrived and they knew their child’s weight gain was good.

Bev recalled her son growing very well in the first year **“He was a very big boy, he thrived as soon as he was born and he was always well up on the Plunket charts for his age and height... he was certainly a lot bigger than the other children in his playgroup.”** Likewise Alice, Caitlin and Isobel all said their babies put on weight and were good eaters.

Alice **“Loved her food and never had any problems trying to coax food into her”**

Caitlin **“He was a good feeder “**

Isobel **“She was always on target, she always did very well, always well covered and always within the range of comfort.”**

Many of the mothers were able to give quite accurate accounts of their baby’s weight gain due to Plunket records.

Fiona recalled how her son was much bigger than average and was very careful with what she fed him **“I know he did gain heaps of weight and by 12 months was at the 97th percentile ... actually by his Plunket records it was 12.8kgs.”**

Hannah and Genevieve said similarly of their young sons.

Hannah **“He was always very much above average - he has a big build”**

Genevieve **“He was always a solid little guy - he’s about 15 kg now and he’s two years old.”**

Knowing the weights and having the Plunket records (a standardized book for all N.Z. infants which records developmental information done regularly by Plunket nurses) was helpful because women with an eating disorder are known to overestimate their baby’s weight. It was evident from the records and pictures I was shown of the babies at that time that these infants were well within (a few above) normal boundaries for weight gain at that time and coupled with the accounts of the baby’s nutrition in that year I found these women were very motivated to provide what I considered a well-balanced diet and were quite focused on the nutritional requirements of the baby at this time. They spoke spontaneously about their concern and motivation to provide nourishing food to their infants. The women remembered in more detail about the foods they gave their infants at that time, they knew why they had fed them certain foods, exactly what age their baby was when they introduced solids and had accessed a wide range of sources of advice about it and were very confident in their knowledge and ability to feed their infants.

The women in my index group made a point of telling me how their babies were very well nourished and how they had made sure of it. They were certainly more vocal and keener to convey what they did as being in the baby’s best interest than the reference group.

Solids - what the reference group said

Several women in this group were vague about when they introduced solids and some had introduced them much later than the index group. Six of the eight reference women had infants whose weights were below average by the first year despite six of the eight babies being born with a birth weight within the normal range. Some babies who’s weight was below normal at a year could be higher if the woman had received nutritional advice.

Cate felt she was not guided enough by her health professional (in England) and that was why her son’s weight was below average in the first year.

“Breastfed for 9 months exclusively, too long poor thing because he wanted

solids ...because I wasn't advised that the reason why he was waking up so much at night was that he was possibly hungry and I thought that just the milk was enough, she [health nurse] probably thought I was feeding him [solids] I did eventually feed him ... but he should have been on them at 3 months"

Anita (maternal weight gain 2.5 kg) said her daughter struggled in the first year to get up to a normal weight but introduced solids later than would be expected. "We had to try something else because she was waking twice a night at that stage so she needed the solids at 9 months - she was a slow feeder and a slow weight gainer so about 350 grams each time she was weighed"

Patricia (maternal weight gain 6 kg) noted her child's weight declined once solids were introduced and said by a year "He was under average" after being normal weight born. Likewise Donna said her son was "a picky eater."

A couple of women had baby feeding practices that are more often associated with women with eating disorders.

Cate "he was hard to feed - I had to hold his arms down a lot of the time." She acknowledged that it was a difficult time for her "I did not have my mum around then and I do believe - I was quite isolated where we lived too but I do believe that that did not help."

Also Anna who said she had to spoon feed her child every mouthful for the first 3-4 years because "he wouldn't eat." Anna had also experienced difficulties with breastfeeding and stopped as soon as she could (within the first few weeks).

Summary of the reference group

The reference group were women in the community who matched my index group with respect to age and build (compare current BMIs in Table 1 and Table 2) but who said they had never experienced a previous eating disorder. The initial intention was to use these women as a point of reference with the index group. However, I came to realise that several of the women in the reference group spoke of behaviours and attitudes that demonstrated characteristics of eating dysfunction. Several women practiced eating restraint at a high level. Some of

the women in the reference group obviously experienced a range of difficulties that have been associated with eating disorders such as:

- *Most of the women's BMI at conception were below N.Z. recommendations for pregnancy i.e. BMI <20.*
- *The women all gained less weight (some significantly less) than the minimum recommended pregnancy weight for their BMI's.*
- *Some women who chose not to breastfeed and who gave it up earlier.*
- *Some women had infants with low birth weights*
- *Some women had difficulty with feeding their babies solids i.e. mentioned more pickiness and difficulty with infant solids feeding in the first year and*
- *Five of the eight infants were below average weights at one year when only two infants had been born below the normal weight range.*

It was significant that the "reference group" began the pregnancy with lower BMI's. Seven women out of the eight had a lower BMI than the minimum recommended by the N.Z. Food and Nutrition Guidelines for Healthy Pregnancy, 1995 (i.e. their BMI was less than 20kg/m², refer guidelines pg 100) and one was just on the lower limit of normal (BMI of 20.1). These women with a low pre-pregnancy weight are more dependent on achieving a good weight gain during the pregnancy than those who are better nourished or have a higher BMI. According to the N.Z. Food and Nutrition Guidelines for Healthy Pregnancy, maternal pre-pregnancy weight has a more significant influence on infant birth weight than any other factors such as height. Women who are thinner before pregnancy tend to have babies that are smaller than those of their heavier counterparts, even with the same gestational weight gain (Institute of Medicine, 1990). During the interviewing some of the reference group of women described eating dysfunction in themselves as well as feeding problems with their children though it is important to state that the majority of mothers in the reference group did not have problems with feeding their children. However for those women who experienced failure to breastfeed or whose infants weight went from normal to below normal weight range in the first year – the effects on their infants may be similar to the numerous reports in the literature of the effects on the infants of women with an eating disorder (Lacey and Smith, 1987; Fahy and Treasure, 1989; van Wezel-Meijer and Wit, 1989; Timimi and Robinson, 1996; Hodes,

Timimi and Robinson 1997). Two of the eight women in the reference group had difficulty conceiving and received fertility treatment when at a very low body weight, which can often be due to excessive weight control or an undisclosed eating disorder (van der Spuy et al, 1988; Stewart et al., 1990; Abraham et al, 1990; Bates et al, 1982). Two women in the reference group expressed dislike of breastfeeding, there were also difficulties noted with solids feeding. One mother controlled all feeding of her child for four years (i.e. spoonfed her child because "he wouldn't eat") and another talked of the difficulty of "having to hold his arms down" so she could feed her one year old. Problems with infant feeding have been related to dysfunctional attitudes in the mother (Johnson and Birch, 1994; Chatoor et al, 1987). There appeared to be some control issues with the feeding of their children for some of the women in the reference group.

In conclusion, many of the reference women appeared unconcerned about their low pre-pregnancy weights and minimal weight gains, only one reported concern from their G.P. Some of these women can also experience difficulty with breastfeeding and introduction of solids. They and their infants may particularly benefit from nutritional guidance during pregnancy and early infant feeding, however, they may be unlikely to ask for it or think they need it.

The issues highlighted by some of the reference group women lead into the next section, which examines how we categorise women with eating dysfunction.

How we categorize women as eating disordered or not

A large number of women with dysfunctional attitudes and behaviours to food, weight and their body shape may never fit the diagnostic criteria for an eating disorder (Palmer, 2005) and there is "disputed territory at the margin" (Palmer, 2005,pp3) with the term "partial syndrome" now being to cover these states. Previously, others have also questioned whether it is appropriate to make strict distinctions between women with an eating disorder and those in the non - clinical population who may have disordered or dysfunctional attitudes to food and weight (Ben-Tovim and Walker, 1991; Garner et al, 1984). There is a concern because eating and weight problems less severe than clinical eating disorders are widespread but certainly not harmless (Robb-Todter, 1996). She asserts, "a weight preoccupation paradigm seems more appropriate for characterising

problematic attitudes about body weight and shape than a construct dichotomizing individuals into asymptomatic (normal) and clinical (eating disordered) populations” (1996, pg 39-40).

However, according to Palmer, (2005) motivated eating restraint may be a more encompassing criterion. In my study, this criterion of motivated eating restraint would serve to include the few women in the reference group who, while having no obvious “weight preoccupation” did appear to have a high level of eating restraint. These women in my reference group also appeared to fit the profile Lee et al, 1993 discuss in their study of Asian women who weigh significantly less than they should for their height and who would have all the hallmarks of a woman with an eating disorder except for having no obvious concern about weight (Lee et al, 1993).

Summary

When looking at a number of markers of women with eating disorders during pregnancy and the post natal period such as:

1. Low BMI at conception
2. Low pregnancy weight gain
3. Difficulty breastfeeding (including dislike of the physical act)
4. Low infant birth weight
5. Low weight gain of the infant in the first year
6. Difficulty feeding (mess making, control issues)

(Patel et al, 2002) it would appear that there is little correlation between these markers and the index group women (previous eating disorder). Of the ten women only one experienced a temporary relapse of her previous ED (bulimia) during pregnancy which soon resolved. It has been found that if the eating disorder is in remission then a straightforward pregnancy and healthy baby can probably be expected (Stewart et al, 1987). The author further acknowledges, women who have had an eating disorder and have recovered will have no more features of continued illness than a reference group of women of similar age. This finding has been previously stated by Garner and Garfinkel, (1984). Other authors have found differently, that this is a time when the eating behaviours return (Morgan et al, 1999; Welch et al, 1997, Stein and Fairburn, 1996) however, the

recovered women in my study were more representative of Stewart et al. and Garner and Garfinkel's findings. As previously mentioned in Chapter 6, the women in this study spoke of using exercise to "get back in shape" after the birth. The women in my study appeared highly motivated to do "everything right" regarding food and weight issues at this time in their lives. They tried to eat a balanced diet when they were pregnant, lost or lessened any concern about personal weight gain and avoided eating restraint. This has been previously noted in the literature where Garner et al (1983) found most biologically recovered women who become pregnant were unconcerned about the changes in their weight and shape during pregnancy and were able to differentiate this weight gain from the fat they used to fear. The women in my index group were also very motivated to breastfeed. They persevered with establishing it and continued for as long as possible. They introduced a nutritious and balanced diet to their infant (using terms such as "organic" and "all homemade" food as opposed to readymade commercial baby foods) and in particular, were proactive in seeking out nutritional knowledge when it wasn't readily available. In all these aspects they were meeting the need that has been inextricably linked throughout this study that they require a high standard of themselves to "measure up" and in this context (pregnancy and early feeding) their concern was for the benefit of the baby.

From my sample of 10 women with a prior history of eating disorders I determined that the possible effects of having a previous eating disorder on subsequent conception, pregnancy, birth weight of baby, breastfeeding and early feeding of the infant were

- 1) The likelihood of increased weight gain i.e. more than the upper limit of weight gain recommended, during pregnancy
- 2) Highly motivated to "eat right" during pregnancy and consciously seeking out nutritional and other information concerning pregnancy.
- 3) Heightened consciousness about successfully breastfeeding and when solids were introduced, a focus on feeding the infant nutritious food.
- 4) The use of exercise for weight control during and after the pregnancy.

It may be helpful if doctors and midwives to be more alert to giving nutritional information to all women and especially those who appear to weigh less than normal or whose weight gain is not within normal boundaries. While most of the

index women said they would have welcomed nutritional guidance during this time most of the reference women did not think they needed it. These differing views can widen our understanding of how women with or without a history of an eating disorder manage weight gain and nutrition during pregnancy

Chapter eight introduces the last category significant in these women's stories, that of repatterning or projection.

CHAPTER EIGHT

Repatterning

In this chapter, the concept of familial transmission of the eating disorder behaviours and attitudes is explored. This is when the fear of not “measuring up” can resurface for some women with a prior eating disorder – i.e. when their own daughters reach the age they were when they first developed the eating disorder. This fear can then be perpetuated in their children (usually their daughters) by a subtle or overt projection of the woman's attitudes, fears and behaviours relative to weight, shape and eating. In this way they pass on the need for concern about their size or weight and model or instill an overriding need to “measure up” in their own daughters by their comments. The index group of women in my study who had teenage daughters were keen to discuss their own daughter's experience. Some of them spoke to me of how their daughters (and one son) had also had difficulty with food and weight issues. I followed up this concept of the cycle continuing with their own children by returning to the other index women in the study and asking them what they would do differently [to their parents] to prevent their children developing an eating disorder. Their comments are included in this chapter.

Repatterning is the term used to explain the attitudes and behaviours of the mothers towards weight and food issues when they managed the adolescence of their own children (particularly their daughters). All of the women in my index group were thinking about how to avoid a repeat of their experience in their own children but they approached this in two distinct ways. The properties of this category are

- 1) Changing the focus (from food/weight)
- 2) Projection of fears -“not cutting the mustard”

Changing the focus (from food/weight issues)

Several of the women were concerned about the fact they could end up with their own children going through what they had experienced at this time in their lives and they were very motivated to prevent this recurring. Some of the women told me they were watching what they said to their daughters and were very conscious of the fact they might precipitate an eating disorder in their own daughters by having a dysfunctional focus on food. This is consistent with the literature on women with eating disorder (Lemburg and Phillips, 1987; Evans and le Grange, 1995) with most women wanting to protect their daughters from what they had experienced. When I asked what they would do differently from their parents to prevent their children developing an eating disorder the women had this to say.

Jess knew her daughter was now becoming conscious of her body and how it looked **“Siobhan now is 11 is conscious and I have to be careful what I say and do, I don’t want her to be obsessive like I have been”**

Genevieve who struggled herself for years with a feeling of having let people down including herself with her eating disorder said how she would hope her sons would not experience what she had gone through **“I would not try to induce shame – let them know they are beautiful just as they are”**

Diana was very conscious of avoiding the comments she knew could induce unnecessary concern in either of her daughter’s about their body.

“I would not make comments about clothes- whether they are slimming or not. I would keep the emphasis on having a fit, functional body - promoting fit, functional role models, not slim little bodies. Regarding food – nothing prohibited but do have an awareness of what’s healthy. Choc, sweets - they [the girls] have their own supply in the fridge but in moderation. I don’t talk about diet products and I’m conscious about not making any comments about my older daughter - who has a strong build.”

Caitlin said she **“would not restrict – if the child was overweight - cos that just encourages them to want it more. If weight was a problem I would encourage healthy snacks – not just bread and allow more freedom and choices to eat when they needed to eat.”**

She recalled the comments she had been subjected to by her father as she grew up and knew not to repeat it **“I’d be very cautious about commenting too much – I would not want her to get an eating disorder.”**

Likewise Fiona spoke of not getting too hooked up on the child’s size or what they ate as well as avoiding the comments **“I would not comment on theirs or anyone else’s weight or size particularly in the vulnerable years say after about 9 years and just have a lot of healthy options available in the house – not too much junk and make sure they get plenty of exercise. Just not have food or size as a big issue”**

Avoiding making specific comments about weight and size/shape were seen by many of these women to be the keys to preventing their children get an eating disorder i.e. not commenting at all on those issues rather than what had been their experience in the family home, at school or with boyfriends. There is mounting evidence that eating disorder behaviours can be transmitted through generations of families and whether this is because of genetic influences or the passing on of attitudes and behaviours regarding food and body size or a combination of the two is yet to be elucidated but parental attitudes about desirable weight and shape is known to contribute to development of eating disorders (Wilson, 1983). Other authors have found that dietary restriction in preteen girls is strongly correlated with their mother’s dieting behaviour (Hill, Weaver and Bindell, 1990). Preliminary findings by Evans and le Grange (1995) that a child’s satisfaction with her body is dependent on her mother’s satisfaction with her own body seem to support such a relationship (Robb-Todter, 1996).

The 10 women in my index group had 27 children (17 girls and 10 boys). Of these, there were 8 adolescent girls and 5 adolescent boys. Three of the 8 adolescent girls (16, 17, 18years) were said by their mothers to have an eating disorder. In addition 1 of the 5 adolescent boys (23 years) was also said to have an eating disorder. This incidence appears much higher than in the general

population as research estimates between 1-6% of all women (Western) will have an ongoing or prior eating disorder (Gotestam and Agras, 1995, Rastam and Gilberg, 1992; Spitzer et al, 1992; Turton et al, Hughes, Bolton and Sedgewick, 1999).

Projection of fears - (“not cutting the mustard”)

The three women who said their teenage daughters had an eating disorder had this to say about their concerns.

Bev admitted she was concerned that none of her daughters ever became overweight. She acknowledged that she had been free with advice on diet and exercise for several years and could be quick to point out the weight or shape failings in other girls around her daughter’s ages.

“Chubby is not good as a teenager as it’s so hard to get rid of [the fat]. I do give advice about food and exercise to the girls.” This mother said that one of her daughters is now thought to have an eating disorder but she believed the eating disorder was initiated by an ex-boyfriend (whom the mother disliked) **“after hurtful comments about her size from an ex- boyfriend.”** The daughter was 1.65m and approx 50 kg).

Bev also has a son in his early 20s with an eating disorder. He is said to have lost 30 kg this year and is now **“very skinny.”** She said she was quite worried and is bewildered as to why he was refusing to eat. She was in contact with his trainer at the gym he attends and they also had expressed concern over his dramatic weight loss and his food intake. **“Though he [unlike the girls] was never restricted with his diet as he was so active so I never said anything.”** She also said she got very frustrated with her oldest daughter who had put weight on and was not interested in exercising **“I told her she’s going to end up a big fat blob.”**

This is, I believe, where the mother’s eating disorder attitudes and fear of weight gain reach through the generations when their own fear of not “measuring up” are being seen played out in front of them by their children (particularly daughters) if they put on weight. This situation is personalised and some of the mothers instinctively believe they must do something about it before it is too late because

they do not want their own children to have to experience what they did with having an eating disorder.

Isobel, the mother of a teenage daughter who dances said, **“It’s hard. I don’t want my daughter to go through that [having to lose weight]...”**

Two of the mothers with teenage daughters who participated in ballet explained a range of reasons why they needed to watch out for and comment on their daughters’ size and weight – while they are both aware of the dangers but still said they had to make their daughters realise how much slimmer they have to be for ballet.

Isobel (mother of 4 teenage daughters) comments. **“It’s hard for me to stop myself from getting her [the 16year old daughter] to watch what she eats. I think there has been an effect on the house with me. I think I have subtly influenced... I know I have. Just by what I say, just subtle comments...just me not wanting them to be... have a weight issue, and having to face losing weight.”**

She was concerned about what she said, enough to query whether it was the right approach **“I’m wondering sometimes if I’m doing more harm than good...”** and recalling her own childhood where her mother had to be constantly aware of what food she provided due to her being a dancer.

“my mother spent her life being conscious of what I ate due to dancing” and there maybe a **“roll on effect [with her daughters] but not to the same extent as me.”** She said her second daughter is now causing her concern - she is losing weight and has been engaging in bulimic activities as the older daughter had **“caught her at it.”** She says that she did sit down and have a good talk to her second daughter a few months ago about whether she wanted to continue with ballet and when she said yes she talked to her about how she has to **“look for ballet.”** Isobel told her, that with her figure as it was, she **“wouldn’t cut the mustard for the major ballet exams you was now going for. In normal life you’re fine, but not for ballet”**

Since then the daughter has been watching what she eats, losing weight and vomiting at times. Isobel acknowledged that she(herself) was acutely conscious of the long-term effects of having her heart set on a dancing career and then to

find in her second year. **“I was sent home, packed up and told I had to go home and lose weight. I got down to 9½ stone - sufficient enough to do my ballet exam and pass but I knew that to carry on in the dancing world was not good enough. They disowned me as well...it’s very hard and it’s had an effect long-term on how I react to criticism these days. I tend to take it very much to heart...”**

Another mother explained the need for the girls to explore what they are eating and look at healthy options. Alice explained that when you put on weight **“with dancing it makes it so much harder- it changes the line and changes your balance.”**

Isobel also reiterated **“you don’t want fat to get in the way of the line.”**

Alice says she has been advising her daughter now she believes she has stopped growing (14 years) to be more conscious **“I recommend exercise first - not cutting out meals, but look at all extras - if you’re hungry go for the healthy option - low fat yogurt instead of ice-cream”** she says they talk about it quite a lot (nutrition). Her daughter is tall and very slim.

A genetic link

It has been speculated that there is a genetic link with some intergenerational eating disorders. Several large studies have reported a 7-to 12 fold increase in the prevalence of anorexia and bulimia in first-degree relatives of individuals with an eating disorder than in relatives of controls (Lilenfield et al, 1998; Strober et al 2000; Kendler et al 1991; Park et al 2003).

There may also be a common familial vulnerability for anorexia nervosa and bulimia nervosa, which extends to milder eating disorder phenotypes. Some of the earliest studies put the rate of variance in liability accounted for by genetic factors as up to 80%, more recent studies using larger samples found the variance in anorexia nervosa due to additive genetic factors as closer to 58% (Bulik et al, 2000).

One woman in my study seemed completely surprised by her daughter's bulimia when she told her about it. Fiona (mother of 16 year old daughter) recently discovered her daughter who is 58 kg and 5' 7" was bulimic. **"I can't believe I have ever done or said anything to her to pass this on –she has a lovely figure, has always been slim and never seemed worried about her weight. We always try to eat "healthy" but there is still junk food available if the children want it. I've never commented on her weight or diet - She doesn't know I was bulimic at her age – I've never discussed it with her. This is like a bolt out of the blue."** Later during the year she said she realised it was because her daughter had been rejected in her first romantic relationship and had not known how to cope with it and the bulimia had begun then.

Modelling

Evans and le Grange (1995) found that a child's satisfaction with her body is dependent on her mother's satisfaction with her own body and some of the mothers here still had concerns for their own weight. Alice described her dissatisfaction with herself as thus **"...The self image I've never really been happy with the weight. I've always thought I could be half a stone lighter. Even now I still think I should lose that half stone. My image of myself is that I am a big person and should lose half a stone."** I saw Alice as a tall, slim (BMI of 21) and it appeared to me that she was very fit and did not need to lose any weight.

Isobel said she had lost weight over the years with various diets (particularly mentioning Rosemary Conley's Hip and Thigh Diet). She had recently begun a diet as she said she had put on some weight and says its very easy to slip back into the denial mode... **"its very familiar, it feels like I'm revisiting something that I've done before. Doesn't take much for me to go without..."** Several authors have found that dietary restriction in preteen girls is strongly correlated with mother's dieting behaviour (Hill, Weaver and Bindell, 1990) and parental attitudes contribute to development of eating disorders (Wilson, 1983). Jess said that her daughter (11 years) had already picked up on the concern and anxiety Jess still had about her weight and food. She said, **"I have to be very careful what I say and do"** as the modelling of concern about her own body was already influencing the daughter.

Summary

It appeared that some of the women had explored in depth why they had developed an eating disorder initially. Because of that self-analysis, they were much less likely to consciously draw the focus of their children, particularly daughters to size, weight or food. Some of the women still did it anyway, despite knowing how the focus on their weight, size and looks contributed to their own eating disorder. Others who still think, they themselves should be thinner or lose weight or who have not fully explored the reasons they themselves got an eating disorder when younger, seemed more inclined to “help their daughters out” at this stage by direct comments about their food intake or size/weight. This appeared to be a direct projection of their own fears of not “measuring up” straight back onto their daughter. Both the properties in this category are inextricably linked with the basic social process of “measuring up” with the mothers in this group either endeavouring to make sure their children understand just how acceptable they are without focusing on any weight/size/food issues or alternatively, finding it imperative to point out certain values inherent in a particular weight/size (you can’t let fat get in the way of the line) etc so that their children won’t have to get to the stage they did and suffer the emotional effects of being taunted about their size and the disappointment in not achieving their goal.

CHAPTER NINE

The Basic Social Process “Measuring up”

Introduction

This chapter begins by discussing the basic social process (BSP) happening, as the women in this study first developed and then recovered from their eating disorder. It looks at how they managed the experience of pregnancy and early mothering. It also looks at how certain patterns of behaviour can lead to their own children developing an eating disorder and how it can be avoided, according to these women. The basic social process (BSP) is discovered in the data and emerges to indicate that something is “happening over time” (Glaser, 1978, pg 75). In the previous four chapters, the findings have been discussed and these were presented as four conceptual categories. These four categories tell the story of the women as they moved through different stages of their lives and were 1) “A way out of feeling” 2) Recovery – the development of alternative coping strategies 3) “Doing the right thing” and 4) Repatterning.

With Grounded Theory the findings are interpreted and integrated into a theoretical framework and the Core Category integrates and links together the data. This central category or basic core variable reoccurs frequently throughout the women’s stories and though the contexts varied for each woman “measuring up” was the impetus for how the women portrayed themselves managing their lives. If they discovered at some points in time that they were “falling short of the mark” they would instigate a process of change that enabled them to feel like they were “measuring up.” This process of “measuring up” is grounded in the data and proposed as the conceptual framework that underpins the women’s responses to life events and how they coped with their eating disorder and later life cycle experiences. In the discussion, the core category is examined and the findings of the study are reviewed. The implications of the study for health professionals working with women during pregnancy and the postnatal period as well as their infants and children are also discussed. Also it may be useful to those involved in the education and welfare of adolescent girls. A summary and analysis of the reference group is also included and helps to expand understanding of the attitudes and thought processes of a wider range of women who may benefit from

nutritional guidance during pregnancy and during the first year of their infant's life.

Measuring Up

The Basic Social Process of “measuring up” in the context of this study denotes a process that the woman engaged in throughout their lives firstly as younger women or teenage girls. Early on, each one of the participants spoke of having in some way experienced a realisation of not measuring up to an externally or internally set standard or somehow being made aware they were “falling short of the mark” and how, the consequent feelings of unworthiness or loss of self-worth mediated an intense desire to “measure up” and be considered acceptable. These women as teenagers took personal responsibility for the task of fitting a mould they perceived they had to fit no matter how difficult it was. This desire to “measure up” was the impetus that drove the development of their eating disorder as a way to resolve their feeling of being inadequate and kept it going for some of the women through many years of their life. The desire to measure up has parallels with other behaviours such as the drive for perfectionism that is often associated with eating disorders (Halmi et al, 2000) and more recently, the experience of guilt is said to play a more central role in the development and maintenance of eating disorder behaviour than previously thought (Burney and Irwin, 2000; Mond et al, 2004). “Measuring up” is a construct, which encompasses the elements present in both of these motivational behaviours. This main concept of trying to “measure up” was not only evident prior to the development of the eating disorder but also was mentioned by the women as a recurring theme cutting across their life stages even when the eating disorder had resolved. It had the potential to influence every aspect of their lives and to underpin how they related to their children, particularly daughters. If issues surrounding their eating disorder and feelings of “falling short of the mark” had not been resolved, then they were much more likely to project their concern and anxiety regarding weight or food onto their child.

The Basic Social process “measuring up” is evidenced in the four categories expressed as a life-cycle phase -

- “A way out of feeling”
- Recovery

- “Doing the right thing”
- Repatterning

The four conceptual categories that emerged from the data tell the story of each woman’s experience of why she developed the eating disorder, her recovery and how she managed pregnancy, early feeding and later concerns.

“**A way out of feeling**” involves what was central to the development of the eating disorder and outlines the perception a woman has of herself as “falling short of the mark” and how this led to her adopting a coping strategy in the form of improvement in herself by control of diet and weight. Research has pointed to the influence of culture that defines a woman’s value as being directly linked to physical attributes such as a slim body. This has led to the labelling of the dissatisfaction among females with their size and shape as “a normative discontent” (Rodin et al, 1985). It is said to be pervasive in women with an eating disorder as well as many of those who do not have an eating disorder. The women felt compelled to use a strategy to overcome these negative perceptions they had of themselves at whatever cost. The feelings of not being good enough within the family context or with influential others (boyfriends, peers at school), and the associated guilt at not “measuring up” was more overwhelming to their mental/emotional health than denial of food. The key to developing this negative self-image was (in my sample) the fact that when the women recalled their childhoods, all of them said they had been subjected to negative, personal comments concerning their bodies and/or sexual abuse prior to the development of the eating disorder. The reasons these women gave to explain why their eating disorder began are consistent with the literature. Haworth-Hoeppner (2000) describes a family’s “main discourse on weight” where frequent and unfavourable comments about weight or size can lead to a younger, vulnerable member of that family believing they are not measuring up in terms of weight or size. Reiff and Reiff (1992), delineate a number of ways family can precipitate an eating disorder including sexual abuse (estimated to have occurred with 60% of women with an eating disorder) and the end of a romantic relationship. All coping strategies adopted by the women were a result of trying to reaffirm their sense of self-worth, by attempting to control what they could at that time and stage in their lives. The range of coping strategies for adolescent girls (and boys) is limited, so for an

increasingly large number of adolescents this control is seen in food and their body. The coping strategies they initially adopted appear to involve the control of food by restriction and rigid exercise and later had the resulting flow on effect of bingeing and subsequent vomiting. This offered a focus for the attention of the adolescent diverting them from having to deal with the real issues but around which there appears no way out for them at that point in their lives. Some of the women acknowledged that when they were adolescents, their lack of life experience meant they did not have the cognisance to understand how their family circumstances may have contributed to the development of their eating disorder and they did not know why they developed the eating disorder behaviours just that they did not feel good about themselves. For some of the women in my sample who experienced sexual abuse (or “crossing of sexual boundaries”) in their childhood, it took many years and for some, therapy, before they realised how it had impacted on their lives in a way that made them turn to food as a coping mechanism. These strategies (eating disorder behaviours and excessive exercise) result in a loss of weight and, because of the flattering feedback and the positive comments that can be generated by a loss of weight in anyone; there was immediate positive reinforcement (for the behaviours). This feedback overrides the previous negative comments, which sparked the feelings of guilt and negative self worth. With a more positive endorsement of themselves they then have the incentive and drive to increase the level and the intensity of the eating disorder behaviours - exercise more, eat less, vomit more, etc, to lose even more weight. Over time, the negative feedback begins to mount. Family members’ expressions of concern are not usually taken well because in many instances that was the milieu that generated the eating disorder behaviours to begin with and this reversal is seen as setting them up to feel negative about themselves again - or taking away the control they now feel they have in the situation.

Recovery involved firstly, the struggle to maintain a weight sometimes severely below the usual weight range of the teenager becoming increasingly difficult. With the continued negative feedback from their own bodies and from others, the teenager may, on their own accord or with guidance seek out more positive coping strategies (exercise rather than denial of food, counseling-psychiatrist, psychologist, self help practitioners such as hypnotherapists, self-help books, support groups, medication). These may be tried and discarded and other

strategies implemented as time goes on. These more positive, coping strategies can usually only be accessed with money, family support and endorsement. This can be problematic when younger, especially for teenagers as many women are when they first develop their eating disorder. For many of the women, exercise becomes the one stable and constructive means of controlling their weight and regulating their appetite providing positive reinforcement of their self worth. This exercise had moderated from what was previously "excessive and obsessive" to being more flexible and healthy in approach. This avoids the need to access more expensive or confrontational options (e.g. psychological counseling). At times, those whose lives were affected for longer, continuous periods with eating disorder behaviours (typically bulimia) may revert back to the original coping strategy of an eating disorder again, perhaps because it was an ingrained habit for years.

Recovery therefore, is not typically a discrete event but more likely occurs over months and sometimes years. Various stressful events can sometimes provoke a return temporarily, to some eating disorder behaviours. The return is not usually as acute as the initial eating disorder and with the wider range of more positive coping strategies more readily available to them now, the eating disorder behaviour is not seen as an attractive option anymore. Some women, however, continued to be dogged by feelings of inadequacy and negative self worth despite apparently successful lives. They did not return to eating disorder behaviours because they had more resources available to them. These were the more constructive coping strategies for dealing with their feelings of negativity and control. For many women this revolved around exercise.

The women who participated in this study all describe a process of recovery which follows a similar pattern, that of developing alternative and more constructive strategies to cope with their need to be perceiving themselves as "measuring up."

"Doing it right" conveys the need the women had at this time to measure up as expectant mothers. The women all responded positively to these significant life events - pregnancy and learning to be a mother. They all conveyed a desire to "do everything right" or "by the book." Concern, which previously, had focused on

their own shortcomings, now developed into a need to do the very best they could as pregnant women. These women were motivated regarding their nutritional needs and their baby's nutritional needs and as such were very good mothers. Four of the ten women in my index group still had a BMI of less than 20 when they conceived (although most were only marginally below), however, the majority of women in this group had relatively large pregnancy weight gains and this may account for the normal to high birth weights of the infants.

None of the women appeared to need a coping strategy for not "measuring up" during their pregnancy. They saw their weight gain and increasing body size as something completely legitimate and expressed little or no concern for the change. The women all went on to have relatively straightforward pregnancies and healthy babies. This is to be expected, Stewart et al, (1987) asserts, if the eating disorder is in remission. Stewart further acknowledges that women who have had an eating disorder and are thought to be recovered will have no more features of continued illness than a reference group of women of similar age. The women's motivation to eat well to meet the nutritional needs of their developing baby corresponds with previous studies where pregnancy was seen by a majority of women as a time when they "had the right to eat because of their baby" (Lemburg and Philips, 1989, pg.289). Several of the mothers in this group wanted nutritional advice and did not receive it from any of their caregivers during pregnancy, nor did they feel comfortable requesting advice. Many of the women spoke of accessing the information themselves from a variety of sources.

A major factor in the experience of pregnancy for my index group of woman was that for a substantial proportion (8/10), this was a time to relax food restriction and there was a rebound effect with the weight gain being more than the recommended upper limit of recommended for their BMI (6/10). However most women were very focused on achieving a good outcome for their pregnancy and stated they were not concerned about weight gain. Unfortunately the excess weight put on by about half the women did not seem to be solely attributable to more of a healthy diet. Several women described eating whatever they wanted at this time including "junk food" which they previously would have rejected, but which now, because of pregnancy and the relaxing of previously self-imposed restrictions was "OK" to eat. This phenomenon has been mentioned before in the

literature with women who have experienced restriction and dieting being more likely to binge and put on excess weight during pregnancy (Fairburn, 1990). After the birth some of the women's previous fear of extra weight returned to a limited extent but by now they could switch to better strategies such as exercise. A strong support network in place was mentioned by most women and was considered a very positive aspect of their pregnancy and postpartum period. Conversely those who did not have a support system felt its absence hindered them in the first year of the baby's life. Having a supportive personal relationship was also seen as helpful. This was particularly evident for a few of the women who mentioned their eating disorder behaviour returning at times of arguments with their husband/partner.

Breastfeeding was successful with nearly all the women in my index group. They said they had few concerns and successfully breastfed for an average of 9 months. It was a time when their bodies did what was expected and they relished the opportunity to nourish their babies. One woman, whose infant was given formula when she was away for a day course, subsequently found her infant refused the breast, wanting only the bottle from then on. She said this was difficult for her. She knew breastfeeding was the best for her baby and also said she felt very self-conscious going into the public eye as a health professional feeding her baby a bottle. This reflects the need these index women showed throughout the study to be "doing everything right" as mothers and also to be seen to be "measuring up." Conversely the 2 mothers in the reference group who chose not to breastfeed found no need to justify this action and were quite content that this was the best option for them. The index group of mothers expressed that they had positive experiences with the feeding of their infants and there appeared no dysfunction associated with this. This fits with Brinch et al's, (1988) study, which found, 12 years after hospital contact for an eating disorder the women, now mothers, had a positive attitude to breastfeeding. This is in contrast to Waugh and Bulik's (1999), study in Christchurch, which found the reverse. Four of 10 case mothers were not breastfeeding by 6 weeks, 2 due to embarrassment and 2 citing insufficient milk. Reasons for the difference between Brinch's and Waugh and Bulik's studies could be sample size (50 as opposed to 10 women). Also, the length of time since treatment for the eating disorder (using the date the diagnostic tool was published as a guide) meant Waugh and Bulik's study appears to have

been done much sooner (0-5 years) after initial diagnosis of an eating disorder than Brinch et al's study (average of 12 years). It is also noted that most of the women in Waugh and Bulik's study were still symptomatic for their eating disorder whereas many of the women in Brinch et al's study were said to be recovered when they conceived (36 of the 50 women were said to be recovered). In my study, the women were said to be recovered at conception.

Solids introduction

The women had good recollections of the nutritious foods they gave their infants in that first year and the healthy diet they provided. There were no difficulties noted with any of the infants in this group by their mothers. Growth patterns for the infants were within the normal range and the introduction of the solids was guided very much by the health professionals available in N.Z for this - Plunket nurses and for most of them "their own mums." None of the women spoke of this time as precipitating any return to the eating disorder behaviour. This is contrary to what several authors in this area have found (Lemburg and Phillips, 1989; Lacey and Smith, 1987; Franzen and Gerlinhoff, (1997). Their research found some women with a previous eating disorder who were symptom-free before or during the pregnancy regressed afterwards with renewed symptoms of anorexia or bulimia. However this was not the experience in my sample of women with most mentioning good support networks (their own mothers and other relatives, Plunket nurses, new mother support groups etc). These support networks coupled with their concern for providing nutritious food for their infant and toddler appeared to focus the women on the health and well being of their infant rather than their own weight. However, there was some concern after the pregnancy for some of the women with residual weight but they appeared to cope with this by "hitting the exercise trail" their popular alternative coping strategy.

Repatterning involved the women's desire to change the dysfunctional focus they had experienced in their lives to more normal and functional attitudes to food and their bodies with their children. The women with a previous eating disorder were keen to instill good eating habits in their children with comments like, "encouraging healthy snacks" and having "no restrictions", no "good food/bad food" and "no diet food." Women who have had previous eating disorder are said to be very motivated to provide their children with a healthy diet and establish

good feeding patterns. This is consistent with other authors' findings as well. Women with a history of weight preoccupation or "dysfunctional focus on food" are said to give considerable thought to how they would try to raise their children free of dysfunctional attitudes to food (Lemburg and Phillips, 1987; Namir et al, 1987; and Evans and le Grange, 1995).

Several women in my sample who had explored why they developed an eating disorder knew they had to change the focus for their own children. They described not commenting on their daughters' build and focused on promoting strong, fit and functional bodies - not slim ones. If they were overweight, they would "not start restricting them because that would just encourage them to eat more" and also they put a strong emphasis on teaching them that they were acceptable "just as they are."

However, some women did not do this, and from what I could ascertain within my sample of women, this is the time when their previous eating disorder appeared to have the most crucial affect on them and their children. That is, when their own daughters reached the age they were when they themselves first began to have feelings of negativity about their self worth due to their body size and/or shape. If the daughter has a small body size that concern is alleviated somewhat "Fortunately she's not going to have any problem in that area so I don't have to worry." But if she began putting on weight, then fears and active reconstruction of those intense feelings of needing to "measure up" may begin again. Concern about their daughter's size was said, by some mothers, as a way to prevent the child going through the same experience of having to lose weight or experiencing the same disappointment. Some of the women were doing a range of things that could possibly initiate an eating disorder in their children, such as commenting negatively on their weight, having talks with them about "how they have to look if they want to go on in ballet", criticizing their dietary habits and lack of exercise "you're going to end up a big fat blob." Critical comments and a "main discourse on weight" (Haworth-Hoepfner, 2000) in a family are said to provide the conditions for vulnerable adolescents to develop eating disorders. Three teenage daughters were known to be bulimic and one son was anorexic. In this way, the effects of a woman's attitudes about her body and diet can extend well beyond her own youth and early mothering years.

Conclusions-Index group

Grounded Theory methodology was the research approach used to explore how the women managed their recovery from their eating disorder, pregnancy and early infant feeding. The development of the eating disorder was first put in perspective and this set the scene for how the women would later manage their recovery and significant life events such as pregnancy.

“Measuring up” was identified as the basic social process (BSP) happening over time as the women first developed their eating disorder and then learnt how to handle their recovery and later, manage pregnancy and feeding of their infant. The women were motivated to do the very best they could as mothers and were keen to convey this to the researcher. They appeared to manage these major life events without any difficulties that could be related to their previous eating disorder. However, their own daughters’ adolescence could pose anxiety and lead to renewed projection of fears of not “measuring up” for some of the women.

The aim of this study was to establish a Grounded Theory to explain how some women recover from an eating disorder and manage the experience of pregnancy and mothering, specifically weight gain and nutritional needs during their pregnancy and the early feeding of their infant. As the mothers told their stories about their recovery and pregnancy and infant feeding, they articulated a desire to “do everything right” or “by the book.” They appeared very motivated and committed mothers. This desire to do everything right had been evident in them from an early age when they first developed the eating disorder and I labelled this the need “to measure up.” This need appeared to follow them all through their lives and may have its basis in guilt associated with early sexual abuse or negative comments about their bodies. The aims of the study were met as the women were able to bring to this study a range of information that reflected their differing abilities and circumstances to successfully manage their recovery, pregnancies and the feeding their infant. The study showed how most of these “recovered” women have the potential to positively influence the next generation regarding issues with nutrition and food and are particularly willing and receptive to nutritional guidance at this time.

The study also showed that several of the index women had made remarkable recoveries and in the process of recovery had manage to take an integrative approach of using what they had learnt about themselves from having an eating disorder to enhance their own and their children's lives in a very positive way.

Conclusions-Reference group

The women in my reference group who demonstrated significant eating restraint were used as form of negative case analysis because what motivated them with their eating restraint was indefinable and not something they were very much aware of. They had expressed no desire to lose weight nor had any problem with self worth issues or feeling like they were not "measuring up" with respect to their weight, shape or size. Likewise, none of the women recalled anyone close to them ever indicating to them they were not adequate in these areas, however, two reference women most representative of "motivated eating restraint" had experienced other significant negative events in their childhoods (one-the early death of a mother and another strict rationing of all food until she left home at 18). This negative case analysis - one that did not seem to fit the emerging concepts was used as a means of challenging initial assumptions and categories (Pidgeon, 1996). Their level of ongoing eating restraint had produced difficulties for them, and some of the other reference women, in ways often associated with women with an active eating disorder. The difficulties included fertility problems, low BMI's at conception, low pregnancy weight gains, a low birth weight baby (<2500gms) and babies who were below average weight at a year even when they had been born well within the normal birth weight range (3000-4000gm). I found that several of the mothers in this group who were to experience difficulty, could have benefited from nutritional guidance both before and during their pregnancy and also with the feeding of their infant but when asked, only one of the eight women had expressed any need or desire for nutritional guidance either during pregnancy or with feeding of their infant.

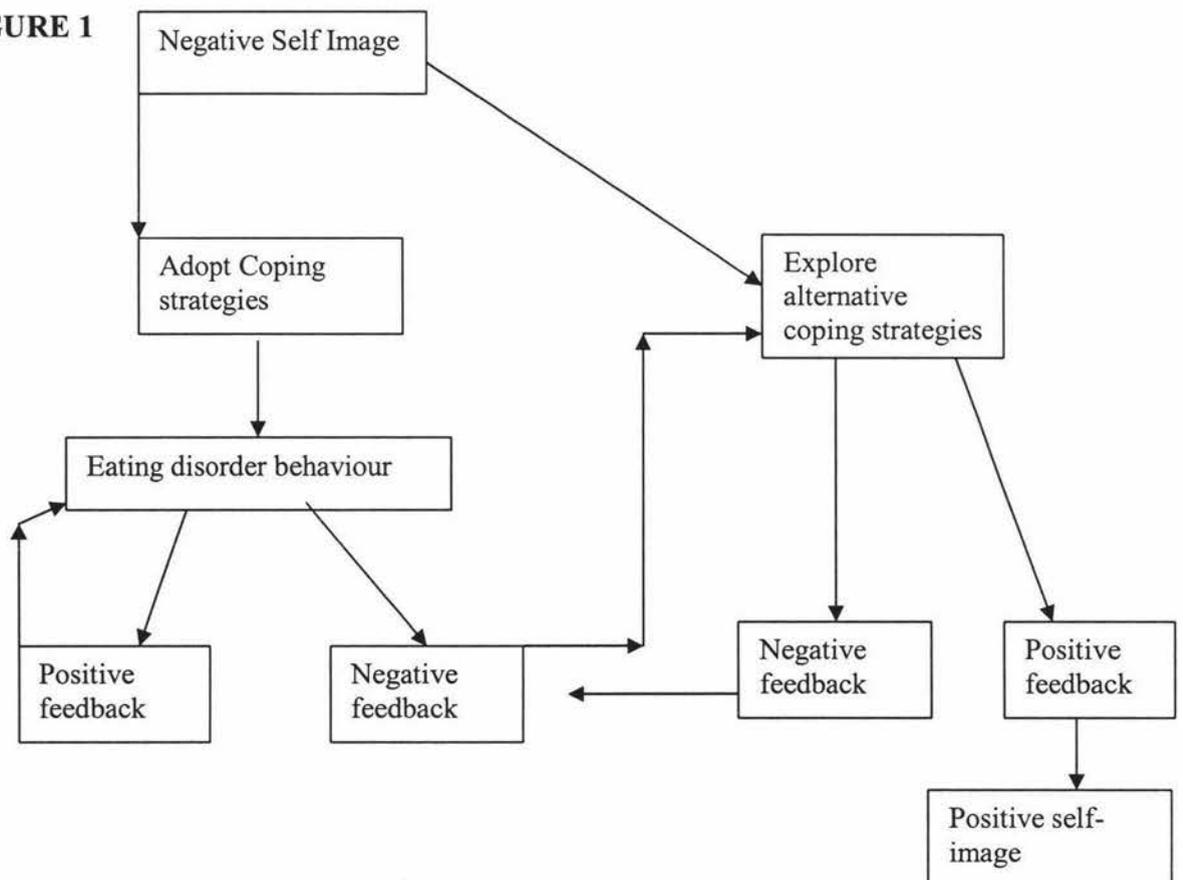
The women in this reference group were characterised by a lack of need to "measure up" or to justify their actions with regard to their own weights, their pregnancy, and the choices they made regarding breastfeeding and the introduction of solids for their infants. Generally they appeared to be more nonchalant about food and weight issues especially during pregnancy. Their

recall regarding the early feeding of their infants was significantly less detailed than the index group indicating this was not an issue with which they had any overriding concerns.

I have not yet elucidated how these women can be easily identified or targeted as they do not present with typical eating disorder behaviours such as weight concerns and do not perceive any need for nutritional advice. Their inclusion in this study was pertinent as it highlights the “motivated eating restraint” (Palmer, 2005) that can be present in women in the community who do not have a history of an eating disorder. Also, the dysfunction that may be associated with “motivated eating restraint” can have consequences similar to those for women with an active eating disorder.

Model: Some young women develop an eating disorder as a coping strategy for their negative self-image but over time can substitute more constructive strategies to fulfil their need to “Measure Up.” Pregnancy is a time for many women when they don’t have to do anything to prove they are “measuring up”

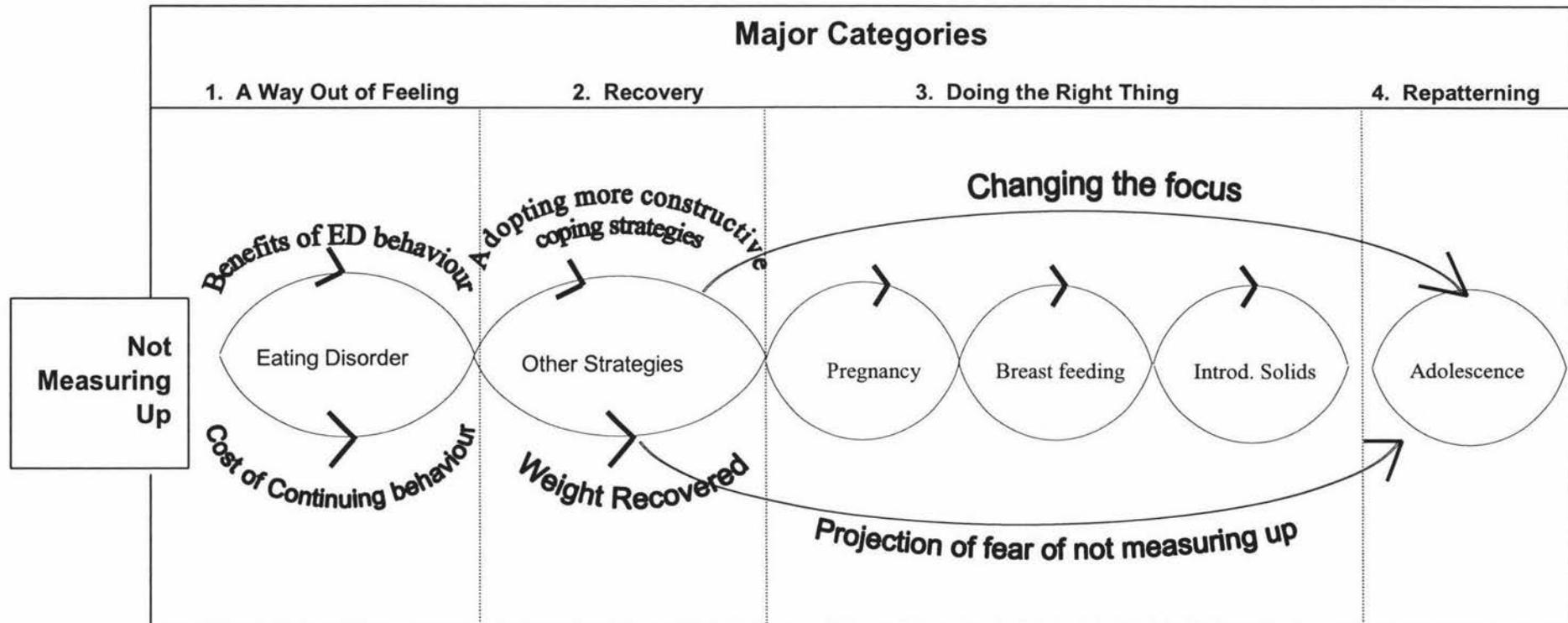
FIGURE 1



Model:

Some young women develop an eating disorder as a coping strategy for their fear of “not measuring up” but over time substitute more constructive strategies to fulfill their need to “Measure Up”. Pregnancy is a time for many women when they don’t have to do anything to prove they are “measuring up”. Fears of not measuring up can resurface at their daughter’s adolescence.

BASIC SOCIAL PROCESS “MEASURING UP”



Implications for Education

Prenatal care (nutritional advice)

Health professionals involved in the care of women before, during or after pregnancy have the opportunity to provide nutritional guidance and support at these critical times.

While all the women in my study had positive outcomes for their pregnancies, it was noted that few, if any, of the midwives, G.P.s or specialist obstetricians asked any questions or provided any nutritional support during the pregnancy other than handing out pamphlets with no discussion about their personal dietary concerns. This is surprising as several of the women (in both groups) had low BMIs. The index group in particular, indicated a willingness and receptivity for it and as such, would have benefited from nutritional guidance. Increasingly, researchers in this area are calling for more nutritional advice to be available and targeted at women in their reproductive years (King and Sachet, 2000, Gluckman and Hanson, 2004). 'The critical role maternal nutrition has in the development of the healthy fetus has been demonstrated in numerous studies (refer to literature review) as far back as 1943. More recent studies done by King, (2000); King and Sachet, (2000); Fall et al, (2003); Merialdi et al, (2003); Villar et al, (2003); Friis et al, (2004); Butte et al, (2003); Butte et al, (2004) and Ramakrishnan, (2004) have substantially advanced our knowledge regarding the nutritional needs of pregnancy and the pivotal effects this can have for the fetus. King (2000) states that when nutrient deprivation falls below a certain threshold during pregnancy then fetal growth and development are more adversely affected than maternal health. In addition, the hypothesis that fetal nutrition influences the development of adult disease is gaining wider support and recognition (Gluckman and Hanson, 2004, Barker 1994, Harding, 2001). The relationship between fetal malnutrition and later disease will, if substantiated, demand intense scrutiny of current prenatal nutrition policies (King and Sachet, 2000, Gluckman and Hanson, 2004).

Clearly, there was a dearth of nutritional information available to all these women throughout their pregnancies from the whole range of healthcare providers in pregnancy - obstetricians, G.P.s, and midwives. Though pamphlets were mentioned by several women, it is far easier for a woman to distance herself and her dietary food choices from what she reads in a pamphlet than when she is expected to

scrutinise and evaluate her daily food choices on a one to one basis with a nutrition professional. Gluckman and Hanson (2004) believe addressing nutritional concerns during pregnancy and before conception is being seen as increasingly vital for the prevention of chronic disease in future generations.

“It seems that increasing awareness of the need to promote the health and nutrition of females of reproductive age is one important element for the prevention of chronic disease in future generations across the globe.” Gluckman and Hanson (2004, pg 1735-1736). Prenatal nutrition information should be considered essential for all women not only because of our growing awareness of the needs of the fetus and the determinants of later disease but also for the woman to remain healthy for subsequent demands such as breastfeeding and additional pregnancies as well as her own health and to avoid unfavorable changes in her body.

If all women contemplating a pregnancy had access to readily available nutrition information prior to conception and during pregnancy, more positive short and long-term outcomes could be expected for future generations.

Implications for practice

It is important for health professionals, particularly midwives who have are often responsible for the care of the woman during pregnancy, to appreciate the need for a change in emphasis on the woman’s nutritional requirements at this time, not only to improve fetal growth and development and the woman’s health but also the longer term health of the infant.

My study showed that a woman with a history of an eating disorder or “motivated eating restraint” is unlikely to reveal this to her lead carer during pregnancy. Though the women in my study did not appear to have experienced a relapse after the birth it is known that some women do. This has implications for both her and the infant. Health professionals involved in the care of pregnant woman who present at a low BMI and subsequently gain minimal amounts of weight (in the absence of other factors) are wise to assume an eating disorder and offer extra assistance with nutrition and weight gain at this time. It should be understood that

difficulties with feeding practices can occur for the children of women without a history of an eating disorder.

Wider measures of recovery (rather than just weight) could be used to assess and interpret a woman's attitude and the likelihood of making the eating disorder behaviours intergenerational. One positive strategy may be for Plunket nurses trained in problematic food behaviours to target women with eating dysfunction by scheduling home visits around mealtimes for toddlers. Difficulties with control, critical comments and mess issues (Stein et al, 1994) could then be targeted.

As can be seen from this study, a number of women with and without a history of an eating disorder can have dysfunctional attitudes and behaviours which may go undetected but which can affect their pregnancy outcome and also the early (and subsequent) feeding of their children. Generally, the women in my reference sample were particularly unaware or resistant to the need for nutritional education during their pregnancies despite several negative outcomes as well as low weight gains. However, with across the board nutritional strategies implemented for all pregnant women to enhance the focus on nutrition at this time, these women could be then encompassed with resulting benefit for them and their children.

FURTHER REFLECTIONS

LIMITATIONS OF STUDY

- The women in my study had a range of eating disorder behaviours. For the purposes of this study I treated them all as a homogenous group labelled “Eating disordered” when they had differed in the length and severity of the eating disorder. They all had restricted food but to varying degrees and not all had been bulimic, some had an eating disorder for many years, others only for 1 or 2 years.
- This was a retrospective study so there may be problems associated with memory recall. I did observe that for the women with a previous eating disorder there seemed to be a strong memory recall of events associated with their eating disorder - their body weights and their behaviours when they had the eating disorder. The outcomes were clear in their memory and they gave vivid descriptions. The women’s children were all at different ages and genders so not all the women had experienced their daughter’s adolescence or for that matter, even had daughters. As I conducted only one formal interview (I did have telephone conversations with them subsequently) there was less opportunity for the women to recall other details, which may have been important. Also, the use of email was limiting with 2 women as there was not the opportunity to establish a rapport that happens in the more intimate setting of an interview.
- It was not appropriate or ethical for me to ask questions about sexual abuse during their childhoods in a single interview. Some women spontaneously shared information about it during the interview but I do not know the status of the other women regarding this, as I did not ask.
- Triangulation was incomplete for a few women. I had to rely on their memory only as they may not have kept antenatal records or Plunket books due to the passage of up to 20 years since they gave birth. Some women had only recently given birth so recall may have been more accurate.
- I only interviewed women with healthy babies (Due to ethical considerations, I could not interview any mothers whose babies had died or were born unhealthy)
- My interpretation of everything that was said is the basis of the results printed here and someone else with a different background may have emphasised different comments the women made and /or come to different conclusions.

- I was conscious of using weight as a predominant parameter of health i.e. the women were said to be “recovered” if their weight had reached a certain point (within 15% of the accepted range for weight/height). However, it was evident that some of the heavier women still had some eating disorder attitudes evident while some “lighter weight” women appeared more relaxed about the whole issue of food and their weight and would be far less likely to start the cycle again. Also the baby’s weight - may not be indicative of how healthy he/she is or could have been with right nutrition. Gluckman and Hanson (2004) state susceptibility to later disease can be put in place by adverse developmental influences (in utero and pre-conceptionally) without birth size being affected.
- Only women who were happy to talk about their eating disorder volunteered for the study but I am conscious they may have omitted things they did not want me to know. Also the reference group of women may have felt they were not in the zone of scrutiny so relayed more negative information on infant feeding than the index group.
- The women were all European, middle-class and most tertiary educated (9) so one would need to be sensitive to the context the findings were made from and the generality of the findings to other groups of women would have to be made with caution.

AREAS FOR FURTHER STUDY

Whilst conducting the interviews for my research I noted that several of the index women in my small study had made remarkable recoveries and in the process of recovery had manage to take an integrative approach of using what they had learnt about themselves from having an eating disorder to enhance their own and their children's lives in a very positive way. More research could be done on the women in this group whose recovery process could then be analysed and used to assist those working with women with an eating disorder.

Specifically

- When an eating disorder is seen to being used as a coping strategy with a younger girl, intervention occurs with other ways to cope be offered before the situation spirals.
- Analysis of the benefits (cost/time/availability) of any of the more constructive coping strategies women engage in after an eating disorder.
- Investigation of women who have recovered well (weight, attitudes and behaviours) to see how and what they did (constructive coping strategies) to have recovered. The information gained from these women could be used for planning recovery strategies for other women currently with eating disorders or who are struggling with recovery.
- Quantitative methods could be used to explore the same issues in this study i.e. recovery, subsequent pregnancy, birth, breastfeeding etc—this would give the advantage of exploring a much larger sample of women and perhaps being more representative of recovered women's experience of these events than my small sample.

Concluding statement

This study highlights dysfunction associated with women's weight and food related attitudes and behaviours. It demonstrates how, for the index group, recovery occurred with the development of more constructive coping strategies for the need to measure up. The study outlines how "recovered women" may experience relatively stress free pregnancies with little concern for weight gain. It also shows how recovered women are motivated to establish good early feeding patterns in their infants. A concern was highlighted during this study for the intergeneration transmission of anxiety regarding weight for some of the adolescent daughters of some of the "recovered" women. The study demonstrates how there can still be significant dysfunctional food behaviours in women who have never had an eating disorder and how this impacts during pregnancy and early feeding of the infant. This study may help health professionals dealing with women during periconception, pregnancy and the first year of an infant's life by broadening understanding of the range of women's attitudes to weight gain, nutrition information needs during pregnancy and early infant feeding.

APPENDIX ONE

Diagnostic criteria for Eating Disorders according to the DSM-1V

The diagnostic criteria for 307.1 Anorexia Nervosa is

- A. Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).
- B. Intense fear of gaining weight or becoming fat, even though underweight
- C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self evaluation, or denial of the seriousness of the current low body weight.
- D. In post-menarcheal females, amenorrhoea, i.e. the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhoea if her periods occur only following hormone, e.g. oestrogen administration.)

Specify type:

Restricting type: during the current episode of Anorexia nervosa, the person has not regularly engaged in binge eating or purging behaviour (i.e., self-induced vomiting or the misuse of laxatives, diuretics or enemas).

Binge-Eating/Purging Type: during the current episode of Anorexia Nervosa, the person has regularly engaged in binge-eating or purging behaviour (i.e., self induced vomiting or the misuse of laxatives, diuretics, or enemas)

The diagnostic criteria for 307.51 Bulimia Nervosa is

- A) Recurrent episodes of binge eating. An episode of binge eating is characterised by both of the following:
- 1) Eating, in a discrete period of time (e.g. within any two hour period) an amount of food that is definitely larger than most people would eat during a similar period of time under similar circumstances.
 - 2) A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).
- B) Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting or excessive exercise.
- C) The binge eating and inappropriate compensatory behaviours both occur, on average, at least twice a week for 3 months.
- D) Self-evaluation is unduly influenced by body shape and weight.
- E) The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

Specify type:

Purging Type: during the current episode of Bulimia Nervosa, the woman has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

Non-purging Type: during the current episode of Bulimia Nervosa, the person has used other inappropriate compensatory behaviours, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

The Category 307.50 Eating disorder Not Otherwise Specified

Is for disorders of eating that do not meet the criteria for any specific eating disorder. Examples include

- 1) For females, all the criteria for Anorexia Nervosa are met except that the individual has regular menses.

- 2) All of the criteria for Anorexia Nervosa are met except that, despite significant weight loss, the individual's current weight is in the normal range.
- 3) All of the criteria for Bulimia Nervosa are met except that the binge eating and inappropriate compensatory mechanisms occur at a frequency of less than twice a week or for duration of less than 3 months.
- 4) The regular use of inappropriate compensatory behaviour by an individual of normal body weight after eating small amounts of food (e.g., self induced vomiting after the consumption of two cookies.)
- 5) Repeatedly chewing and spitting out but not swallowing, large amounts of food.
- 6) Binge eating disorder: recurrent episodes of binge eating in the absence of the regular use of inappropriate compensatory behaviours characteristic of bulimia Nervosa.

Binge Eating Disorder-

Diagnostic criteria have been developed for another eating disorder, binge eating disorder (BED), to describe the many individuals who have problems with recurrent binge eating but do not engage in the characteristic compensatory behaviours of bulimia nervosa, vomiting or use of laxatives. The disorder is thought to be more common in **obese** subjects, more in females than males and in those experiencing marked weight fluctuations.

In a multi-site field trial involving 1,984 subjects it was found that 30% of those attending a hospital-affiliated weight control programme experienced binge eating. Many studies have indicated that such patients represent a substantial proportion of the obese in weight –control programmes (Gormally et al, 1982; Orleans, 1981; Marcus et al, 1985) with the largest studies reporting prevalence's of binge eating ranging from a quarter to a half (Loro and Orleans, 1981; Marcus et al, 1988, Devlin et al, 1992) had it. Obese individuals who engage in binge eating exhibit more eating and weight related pathology.

In the general community it is considered relatively rare (2%).

Diagnostic criteria for BED

- A. Recurrent episodes of binge eating, an episode being characterised by:
 - 1) Eating, in a discrete period of time (e.g., in any two hour period) an amount of food that is definitely larger than most people would eat during a similar period of time.
 - 2) A sense of lack of control during the episodes, e.g., a feeling that one can't stop eating or control what or how much one is eating.
- B. During most binge episodes, at least three of the following behavioural indicators of loss of control:
 - 1) Eating much more rapidly than usual
 - 2) Eating until uncomfortably full
 - 3) Eating large amounts of food when not feeling physically hungry
 - 4) Eating large amounts of food during the day with no planned mealtimes
 - 5) Eating alone because of being embarrassed by how much one is eating
 - 6) Feeling disgusted with oneself, depressed, or feeling very guilty after overeating.
- C. Marked distress regarding binge eating.
- D. The binge eating occurs, on average, at least twice a week for at least a 6-month period.
- E. Does not currently meet the criteria for bulimia nervosa.

Appendix Two

Tables 1-4

Table 1: **A summary of the effects of the famine correlated with the stage of development (refer Susser and Stein, 1994)**

Table 2: **Prepregnancy and pregnancy weight gain data for the index group of women I studied**

Table 3: **Reference Group: Weight gain data for pregnancy and through their life cycle**

Table 1 A summary of the effects of the famine correlated with the stage of development is shown in this table 4 (refer Susser and Stein, 1994)

Results Assembled by Stage of Gestation

Periconception	First trimester	Third Trimester
Fertility	Gestation length (Prem)	Maternal weight
Organic brain defects (NTD)	Stillbirths	Birth weight (incl 2 nd generation)
Schizophrenia	Obesity increased	Mortality (0-3months)
Schizoid/antisocial personality		Obesity increased

The following table (Table 2) gives the prepregnancy and pregnancy weight gain data for the index group of women I studied i.e. those who have a previous ED. Other information such as the type of ED they had and the length of recovery and their present weight is also included.

	Alice	Bev	Caitlin	Diana	Lorr	Fiona	Genevieve	Hannah	Isobel	Jess
Lowest body wgt/kg (Since adolescence)	45.8 BMI 15.8	47.6 BMI 18.0	58 BMI 20.0	47 BMI 19.2	38 BMI 15.3	35 BMI 12.7	48 BMI 18.7	43 BMI 16.6	47 BMI 17.2	Not given
Type of ED	AN	AN	ED-NOS	AN/BUL	BUL/AN	AN/BUL	BUL	AN	AN	ED-NOS
Length Recovery	10 yrs	2 years	5 years	Bulimic -	Recovered bulimic still anorexic	1 year	3 years	3 years	9years	Ongoing
Conception	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal Fert. help with 2 child
Pre pregnancy weight kg BMI	60.1 BMI 20.9	50.8 BMI 19.2	60.3 BMI 20.87	55 BMI 22.3	38 BMI 15.3	54 BMI 19.6	52 BMI 20.3	44 BMI 16.9	63 BMI 21.7	63 BMI 24.3
Weight Gain during Pregnancy/kg	20 kg Tox	19kg Tox	12.7kg	-6-7kg	24kg Gest Diabetes	6 kg	18	20kg	15	30kg
Baby's birth weight/gms	3480 induced	3317 induced over	2920	2680 baby not gaining about to be induced	4300 baby had breathing difficulties	3600	3850	3891	3260	3572
Baby's condition at birth/apgar if known	Good	Good 9/10	Stressed 7/10	Good	Good	Good	Good	Good 9/10	Good	Good
Breastfeeding	4 mths	6mths	7mths	9 mths	9mths	9mth	12 mths	4mths	10mth	Yes
Solids	5 mths	4mths	5mths	4-6mth	2-3 mth	3-4mths	5.5mth	4mths	4mths	4 months
Growth by 1 year	Normal	>normal	normal	normal	>normal	>normal	normal	>normal	normal	normal
Current weight	62 BMI 21.5	62 BMI 23.5	65 BMI 22.6	49 BMI 19.7	52 BMI 20.9	57 BMI 20.7	52 BMI 20.3	46kg BMI 17.7	76	80 BMI 31
Current age	39-43	43	45	39-43	34-38	46	38	27	46	44
ED problems in child		2 child ED				1 child ED			I child	

Table 3-**Reference Group: Weights through their life cycle**

	Anna	Brenda	Cate	Donna	Emma	Megan	Pat	Anita
Lowest body wgt/kg (Since adolescence)	47.6 BMI 18.0	49.9 BMI 17.5	50.0 BMI 18.9	53.9 BMI 19.5	53.9 BMI 18.0	54 BMI 18.7	35 BMI 13.2	50 BMI 17.3
Pre pregnancy weight kg BMI	52 19.7	57 20.1	52 19.7	54 19.6	54 18.7	57 19.7	36 13.7 Fertility treatment	Unsure but low Fertility treatment
Weight Gain during Pregnancy/kg	6.35	6.4	6	8	12	11	6 kg	2.5 kg
Baby's birth weight/kg	2.4	3.9	3.6	3.2	3.395	3.520	3.640	2.778 (induced due to lack of weight gain) fetal distress SCUBU
Current weight	Unsure BMI ~23.5	68 BMI 23.8	62 BMI 23.5	63.5 BMI 23.0	52 BMI 17.4	57 BMI 19.7	45 BMI 17.0	52 BMI 17.9
Current age	48	48	41	51	43	40	46	44

Table 4: **Recommended Total Weight Gain Ranges for Pregnant Women by Pre-pregnancy Body Mass Index (BMI)**

	Weight for Height Category	Recommended total weight gain (kg)
Low	BMI<19.8	12.5-18
Normal	BMI19.8-26.0	11.5-16
High	BMI>26.0-29.0	7-11.5

Appendix three

Information sheet

Consent form

Interview schedule Index group

Interview schedule Reference group

Project title: Recovery and reproductive health after an Eating Disorder.

Information Sheet

I would like to invite women who have recovered from an Eating Disorder and had at least one child to participate in a study investigating how recovery impacts on pregnancy. This research is being done in fulfilment of the requirements for a Masters degree in Science.

Summary

- 1) Background
- 2) The study
- 3) What the study will involve
- 4) What to do if you wish to participate
- 5) Who to contact for further information
- 6) Project procedures

1) Background :

Anorexia nervosa is the third commonest chronic condition in adolescence and this has led to concern over the short and long-term effects of the disorder on women's health. Little is known about recovery (weight gain to within 15% of normal) and the effects of eating disorders on subsequent pregnancy.

- 2) The aim of this study is to** determine how a woman who has recovered from an eating disorder experiences pregnancy, birth and early motherhood, with particular focus on nutrition.

3) What the study will involve

Participants will be asked to discuss their previous eating disorder and their experiences of pregnancy, birth and the first year of motherhood. They will be asked about their diet, food preferences and weight gain in pregnancy. The interview is expected to take one hour and will be conducted at a time and place convenient to the participant.

Taped transcripts of the interviews will be reviewed by one of the supervisors of the project Dr Jane Emslie (clinical psychologist).

If you would like to participate in this study, it is necessary that you meet all the following selection criteria.

- Are over 20 years old.
- Have had an Eating Disorder (ED).
- Are currently well.
- Have had at least one child.
- Had recovered from your Eating Disorder for at least a year before you became pregnant.

4) What to do if you wish to participate

Your participation in this study is entirely voluntary.

If you are interested in participating in this trial, then you retain the rights to:

- Decline to participate
- Decline to answer any particular question
- Withdraw from the study (at any time)
- Ask any questions about the study at any time during participation
- Provide information on the understanding that your name will not be used unless you give permission to the researcher
- Be given access to a summary of the project findings when it is concluded.
- You have the right to ask for the audiotape to be turned off at any time during the interview
- You will be given the opportunity to review the transcript if you wish.

If you do wish to participate, then we would ask you to complete the consent form. This form simply confirms that you have read and understood the information about this study, and that you have agreed to participate.

However it is important for you to understand that if, at any point during the study, you decide that you no longer wish to continue, you may withdraw and you do not need to explain to us the reasons (however, we would like you to inform us of this decision, and also to inform us if you are away).

For those participants who sign the consent form, we will contact you again to confirm you have been accepted into this study and to arrange a time and place convenient for you to have the interview.

5) Who to contact for further information

If you wish to discuss any aspect of this study further, or if you have any concerns or queries, please contact:

Student Researcher: Caroline Gunn
Address: RD 3 (Waiohiki) Napier
Email: gunnshb@webnet.co.N.Z.
Phone: 06 8448258

University Supervisor: Jane Coad
Massey University
Email J.Coad@massey.ac.N.Z.
Phone: (06) 350 5906

University Supervisor (Clinical): Dr Jane Emslie
Christchurch School of Medicine
Email: jane.emslie@chmeds.ac.N.Z.
Phone: 03 372 0400

6) Project procedures

- The researcher will store data under secure file at Massey University for five years and then it will be destroyed. Data from the interviews will also be stored in a secure area of the researcher's computer where only they can access it through password.
- You can also request a copy of the summary of the research findings.
- Confidentiality and anonymity is assured through the secure storage of all material from interviews, no names or addresses will be included in any published material regarding the questionnaire and pseudonyms will be used in describing the interview results.

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN Protocol No. 03/115. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Palmerston North, telephone 06 350 5249, email S.V.Rumball@massey.ac.N.Z.

Project Title

Recovery and Reproductive Health after an Eating Disorder.

Consent Form for interview (Note this consent form will be held for a period of five years)

I have read the information sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/ do not agree for the interview being audio-taped.

I agree to participate in the study in this study under the conditions set out in the information sheet.

Signature: _____

Date: _____

Full name (printed) _____

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN Protocol No. 03/115. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Palmerston North, telephone 06 350 5249, email S.V.Rumball@massey.ac.N.Z.

INTERVIEW SCHEDULE

Project title: Recovery and reproductive health after an Eating Disorder.

Interview Schedule (semi structured; with prompt questions)

Focus question: **What effects does a previous Eating Disorder have on a woman's experience of nutrition in pregnancy and on the outcome of pregnancy?**

Interview order and prompt questions

1. **Introduction:** Caroline Gunn – I am doing a research project for my Master thesis on effects of a previous history of an eating disorder on nutrition in pregnancy – reasons for doing study (as per information sheet) - interview will be taped and transcribed by self – confidentiality and data storage issues. Any questions. Can stop at any time.
2. Can you tell me about your eating disorder:
Prompts:
 - a. type of ED (Anorexia, bulimia, mixed, purging, restricting, exercising)
 - b. timing and duration of ED
 - c. diagnosis/treatment/counselling (and timing) for ED?
 - d. effects of ED on weight
3. Can you tell me about the recovery process?
Prompts:
 - a. timing of recovery lead into timing of first pregnancy
4. When was your first baby born? What is his name? [determine *name* for further questions – see question]
5. Have you had other children? [years of birth]
6. I would like to ask you about your weight gain during the pregnancy.
Prompts:
 - a. Pre-pregnancy weight
 - b. Mat. weight gained during pregnancy

- c. Regular mat. weighing?
 - d. Explorer: concerns about mat. weight gain? – high/low/restricted
 - e. Did it take you long to conceive?
7. I would now like to ask you about your diet and nutrition during that pregnancy
- a. What did you eat before you were pregnant *or* How would you describe your diet before you became pregnant?
 - b. Did you change your diet in pregnancy? How? Why?
 - c. Did you receive any advice about diet from a health professional? From whom?
 - d. Did you follow the advice? In what way?
 - e. Did your health care professional, who looked after you in pregnancy, know you had previously had an eating disorder?
 - f. What did you eat once you knew you were pregnant *or* How would you describe your diet once you were pregnant? [better than before, same, not as good as before]
 - g. Did you experience any “morning sickness” (nausea and vomiting) during the pregnancy? [follow-on: extent and severity]
 - h. Did you experience any cravings and aversions for foods during the pregnancy? [follow-on: examples]
8. Can you tell me about [*name* of first baby]?
- Prompts:**
- a. baby’s birthweight [plus length and Apgar score (or well being) if known]
 - b. How did you feed [*name*] – determine type and exclusivity of feeding
 - c. Did [*name*] feed well?
 - d. Do you know what [*name*]’s weight gain was in the first year?
 - e. When did you first give [*name*] solid food? [follow-on: what foods]
 - f. Did you receive any advice from a healthcare professional about feeding your baby? Explorer: Did you want any? Any conflict?
9. I would like to end by asking you a few personal details.
- a. Can you tell me which age-range you fall into (show page with age-ranges)
 - b. Can you tell me your height?
 - c. Can you tell me your current weight?

Thank you for taking part in this interview

Age ranges:

- a. 20-23
- b. 24-28
- c. 29-33
- d. 34-38
- e. 39-43
- f. 44-48
- g. 49-53

Reference group questions

Project title: Recovery and reproductive health after an Eating Disorder.

Interview Schedule (semi structured; with prompt questions)

Focus question: **What effects does a previous Eating Disorder have on a woman's experience of nutrition in pregnancy and on the outcome of pregnancy?**

Interview order and prompt questions

1. Can you tell me about your relationship with food when you were a teenager. e.g what sort of foods did you like to eat, what did you not like, did you binge e.g chocolate.
2. How would you describe your parents' attitude to food and eating? Was food used as a reward? – by whom
3. What was your weight and height-highest ever weight, lowest weight (any reasons for this)
4. Did you think there expectations from anybody- family (parents, siblings) that you would look a certain way
5. Did you have any concerns with your body shape or weight?
6. Peer group expectations- what was considered a good body for a girl at that time –was it an issue. Did your girlfriends comment –in what way?

Prompts

- a) Did you ever restrict, overexercise, vomit take laxatives or do anything to lose weight or prevent weight gain
- b) What exercise regime did you have
- c) Did you do any sport or dancing.
7. When was your first baby born? What is his name? [determine *name* for further questions – see question]
8. Have you had other children? [years of birth]
9. I would like to ask you about your weight gain during the pregnancy.
Prompts:
 - a. pre-pregnancy weight
 - b. mat. weight gained during pregnancy
 - c. regular mat. weighing?
 - d. explorer: concerns about mat. weight gain? – high/low/restricted
 - e. did it take you long to conceive?
10. I would now like to ask you about your diet and nutrition during that pregnancy

- a. What did you eat before you were pregnant *or* How would you describe your diet before you became pregnant?
 - b. Did you change your diet in pregnancy? How? Why?
 - c. Did you receive any advice about diet from a health professional? From whom?
 - d. Did you follow the advice? In what way?
 - e. What did you eat once you knew you were pregnant *or*
 - f. How would you describe your diet once you were pregnant? [better than before, same, not as good as before]
 - g. Did you experience any “morning sickness” (nausea and vomiting) during the pregnancy? [follow-on: extent and severity]
 - h. Did you experience any cravings and aversions for foods during the pregnancy? [follow-on: examples]
11. Can you tell me about [*name* of first baby]?

Prompts:

- a. baby's birthweight [plus length and Apgar score (or well being) if known]
 - b. How did you feed [*name*] – determine type and exclusivity of feeding
 - c. Did [*name*] feed well?
 - d. Do you know what [*name*]'s weight gain was in the first year?
 - e. When did you first give [*name*] solid food? [follow-on: what foods]
 - f. Did you receive any advice from a healthcare professional about feeding your baby? Explorer: Did you want any? Any conflict?
12. I would like to end by asking you a few personal details.
- a. Can you tell me which age-range you fall into (show page with age-ranges)
 - b. Can you tell me your height?
 - c. Can you tell me your current weight?

Thank you for taking part in this interview.

Age ranges:

- | | |
|----------|----------|
| a. 20-23 | b. 24-28 |
| c. 29-33 | c. 34-38 |
| d. 39-43 | e. 44-48 |
| f. 49-53 | |

Appendix 4

Referral List for Women needing help with an Eating Disorder

Auckland

North Shore Women's Centre

5 Mayfield Road
P.O. Box 40-106
Glenfield

Phone: (09) 444-4618

Fax: (09) 444-4626

Eating Disorder Association

P.O. Box 80142
Green Bay
Auckland 7

Phone: 09 818 9561

09 627 8493

09 523 3531

09 523 1308

Email: anorexia@health.net.N.Z.

E.D.E.N. Eating Difficulties Education Network

4 Warnock Street
PO Box 78005
Grey Lynn

Phone: (09) 378-9039

Fax: (09) 378-9393

Wellington

Wellington Eating Disorder Services

11 Pipitea Street
PO Box 5128
Wellington

Phone: (04) 473-5900 or (04) 472-0114

Fax: (04) 472-0779

Eating Disorder Services

P.O. Box 13 807
Johnsonville
Wellington

Phone: (04) 478 6674

Fax: (04) 477 4160

Email: info@eatingdisorders.org.N.Z.

Christchurch

Women with Eating Disorders Resource Centre

Room 111, Crammer Centre
PO Box 4520
Christchurch

Phone: 03 366-7725
0800 690 233
Fax: 03 366-7720

Women with Eating Disorders Resource centre

P.O. Box 4520
Armagh and Montreal St
Christchurch

Phone: 03 366 7725

Bibliography

- Abraham, S. (1998). Sexuality and Reproduction in bulimia nervosa patients over 10 years. *J Psychosom Res*, 44, 491-502.
- Abraham, S., Beumont P.J.V. (1982). Varieties of Psychosexual Experience in Patients with Anorexia Nervosa. *Int J Eat. Disord*, 1,10-19.
- Abraham, S., King, W., Llewellyn-Jones, D. (1994). Attitudes to body weight , weight gain and eating behaviour in pregnancy. *J Psychosom Obstet Gynaeco*.15, 189-195.
- Abraham, S. and Llewellyn-Jones, D. (1992). *Eating disorders. The facts.* Oxford medical publications.
- Abraham, S., Mira, M., Llewellyn-Jones, D. (1990). Should ovulation be induced in women recovering from an eating disorder or who are compulsive exercisers? *Fertil and Steril* 52,566-8.
- Abrams, B., Altman, SL., Pickett, KE. (2000). Pregnancy weight gain: still controversial. *Am J Clin Nutr* 71(suppl) 1233S-41S
- Ackard, D., Brehm, B. and Steffen, J. (2002). Exercise and Eating Disorders in College- Aged Women: Profiling Excessive Exercisers. *Eating Disorders*, 10: 31-47.
- Agras. S, Hammer, L. and McNicholas F, (1999). A prospective study of the influence of eating disordered mothers on their children. *International Journal of Eating Disorders*, 25, 253-262.
- Ambroz, JR. (1996) Eating Disorders and Pregnancy. *Midwifery today*, 40, 24-25.
- Attie,L., and Brookes-Gunn, J.(1987). Weight concerns as chronic stressors in women. In R.C. Barnett, L. Brenner, and G.K. Baruch (Eds), *Gender and stress* New York. The Free Press.
- Baker, E.,Mathur, R., Kirk, R. and Williamson H.(1981). Female runners and secondary amenorrhoea: correlation with age, parity, mileage and plasma hormonal and sex-hormona binding globulin concentrations. *Fertility and Sterility*, 36,183-187.
- Bamber, D., Cockerill, I. and Carroll, D. (2000). The pathological status of exercise dependence . *Br. J. Sports Med.*, 34; 125-132.
- Barker, D. (1994) The fetal origins of adult disease. *Fetal and Maternal Medicine review*.6:71-80.

- Barker, D. (Ed.) (1992). *Fetal and Infant Origins of Adult Disease*. London: British Medical Journal.
- Bates, G.W., Bates, S.R. and Whitworth, N.S. (1982). Reproductive failure in women who practice weight control. *Fertil Steril*, 37, 373-378.
- Becker, A., Grinspoon, S., Klibanski, A. and Herzog, D. (1999). Current Concepts: Eating disorders. *N Engl J Med*, 340, 1092-1098.
- Beglin, S. and Fairburn, C. (1991). Women who choose not to participate in surveys on eating disorders. *Int Journal of Eating Disorders*, 12, 113-116.
- Bendich, A. (1993b). Lifestyle and environmental factors that can adversely affect maternal nutritional status and pregnancy outcomes. In Maternal Nutrition and Pregnancy Outcome. *Annals of the New York Academy of Sciences*. pp255-265.
- Ben-Torvim, D.I. and Walker, M.K. (1991). Women's body attitudes: a review of measurement techniques. *International Journal of Eating Disorders*, 10 (2), 155-167.
- Beaumont, P., Arthur, B., Russell, J., and Touyz, S. (1994). Excessive physical exercise activity in dieting disorder patients: Proposals for a supervised exercise program. *International Journal of Eating Disorders*, 15(1), 21-36.
- Bracken, MB, Enkin, M., Campbell, H., Chalmers, I. (1988). Symptoms in pregnancy. In: I. Chalmers, M. Enkin, J. N. Keirse, (eds). *Effective care in pregnancy and childbirth*. Oxford: Oxford University Press p501-511.
- Breier, B., Krechowec, S. and Vickers, M. (2004). Maternal nutrition in pregnancy and adiposity in offspring. S.C. Langley- Evans (ed). *In Fetal nutrition and adult disease: Programming of chronic disease through fetal exposure*. CAB International.
- Breier, B., Vickers, M., Ikenasio, B., Chan, K. and Wong, W. (2001). Foetal programming of appetite and obesity. *Molecular and cellular Endocrinology*, 185, 73-79.
- Briere, J. N. (1992) *Child Abuse Trauma: Theory and Treatment of the Lasting Effects*. Newbury Park, CA: Sage Publications
- Brinch, M., Isager, T. and Tolstrup, K. (1988). Anorexia nervosa and motherhood: Reproductive pattern and mothering behaviour of 50 women. *Acta Psychiatrica Scandinavia*, 77, 98-104.
- Bruch, H. (1973). *Eating Disorders.: Obesity, anorexia nervosa, and the person within*. New York. Basic Books

- Bruch, H. (1978). *Eating Disorders. The Golden cage: The enigma of anorexia nervosa. Harvard University press. Cambridge. Mass.*
- Bryman, A, and Burgess, R., (1994). *Analysing Qualitative Data.* London: Routledge
- Bulik, C.M., Sullivan, P.F., Epstein, L.H., McKee, M., Kaye, W.H., Dahl, R.E. and Weltzin, T.E. (1992). Drug Use in women with anorexia and bulimia nervosa. *Int J Eating Disorders 11*, 213-215.
- Bulik, C.M., Sullivan P.F., Wade T.D., and Kendler K.S. (2000). Twin studies of Eating disorders: a review. *Int J Eat. Dis 27*(1):1-20.
- Bulik, C.M., Sullivan, P.F., Weltzin, T.E., and Kaye, W.H. (1995). Temperament In Eating Disorders. *Int J Eating Disorders 17*, 251-261.
- Burke, B., Beal, V., Kirkwood, S. and Stuart, H. (1943). The influence of nutrition during the pregnancy upon the condition of the infant at birth. *American Journal of Obstetrics and Gynaecology*, 46, 569
- Burney, J. and Irwin, H. (2000). Shame and guilt in women with eating disorder symptomatology. *Journal of Clinical Psychology*, 56, 51-61.
- Butte, N.F., Wong, W.W., Treuth, M.S., Ellis, K.J., O'Brian Smith, E. (2004). Energy requirements during pregnancy based on total energy expenditure and energy disposition. *Am J Clin Nutr 79*, 1078-1087.
- Caan, B., Horgan, D.M., Margen, S., King, J.C., Jewell, N.P., (1987). Benefits associated with WIC supplemental feeding during the interpregnancy interval. *Am J Clin Nutr 45*:29-41.
- Chatoor, I., Egan, J., Getson, P., Menvielle, E., O'Donnell, R. (1988). Mother-infant interactions in infantile anorexia nervosa. *Journal of the American Academy of Child and Adolescent Psychiatry 27*: 535-540
- Crisp, A.H. (1980). *Anorexia Nervosa: Let me be.* New York: Grune and Stratton.
- Crisp, A., Hsu, L., and Harding (1980). The starving hoarder and voracious spender: Stealing in anorexia nervosa. *Journal of Psychosomatic Medicine*, 24, 225-231.
- Dale, E., Gerlach, D.H. and Wilhite, AL. (1979). Menstrual dysfunction in distance runners. *Obstetrics and Gynaecology 54*:47-53.

- Dansky, B.S., Brewerton, T.D., Kilpatrick, D.G., O'Neil, P.M., (1997) The National Women's Study: relationship of victimization and post traumatic stress disorder to bulimia nervosa. *Int J Eat Disord* 21:213-228.
- Davis, C., Kennedy, S., Ralevski, E., Dionne, M. (1994). The role of physical activity in the development and maintenance of eating disorders. *Psychol Med.* 24: 957-967.
- Davis, C., Kennedy, S., Ralevski, E., Dionne, M., Brewer, H., Neitzert, C. and Ratusny, D. (1995). Obsessive Compulsiveness and Physical Activity in Anorexia Nervosa and High Level Exercising. *Journal of Psychosomatic Research*, Vol 39, No.8, 967-976.
- Devlin, M.J., Walsh, B.T., Katz, J.L., (1989). Hypothalamic-pituitary-gonadal function in anorexia nervosa and bulimia. *Psychiat Res.*, 1, 11-24.
- Devlin, M.J., Walsh, B.T, Spitzer, R.L. and Hasin, D. (1992). Is there another binge eating disorder? A review of the literature on overeating in the absence of bulimia nervosa. *International Journal of Eating Disorders*, 11, 333-340.
- Dick, B. (2005). Grounded Theory: a thumbnail sketch [On line] Available at <http://www.scu.edu.au/schools/gcm/ar/arp/grounded.html>.
- Draeger, J. (2005). The Obligatory Exerciser. *Physician & Sportsmedicine*, Vol 33, 6: 13-23.
- Edwards, L.E, Alton, I.R., Barrada, M.I. and Hakanson, E.Y. (1970). Pregnancy in the underweight woman. Course, outcome and growth patterns of the infant. *American Journal of Obstetrics and Gynaecology* 135, 297-302.
- Evans, N., Gilpin, E., Farkas, A., Shenassa, E. and Pierce, J. (1995). Adolescents perception of their peers health norms. *American Journal of Public Health*, 85, 1064-1069
- Evans, J., le Grange, D., (1994). Body size and Parenting in Eating Disorders: A comparative study of the attitudes of mothers towards their children. *International Journal of Eating Disorders*, Vol. 18, No. 1, 39-48 (1995)
- Fahy, T., and Treasure, T. (1989). Children of mothers with bulimia nervosa. *British Medical Journal* 299-1031. (letter)
- Fahy, T. and Morrison, J. (1993). The clinical significance of eating disorders on obstetrics. *Br J of Obstetrics and Gynaecology*, 100,708-710.
- Fairburn, C.G., Beglin, S.J. (1990). Studies of the epidemiology of bulimia nervosa. *Am J Psychiatry*, 147,401-408.

- Fairburn, C. and Cooper, P. (1984). The clinical features of bulimia nervosa. *Br J. Psychiat.*, 144, 238-246.
- Fairburn, C.G., Stein, A., Jones, AR. (1992). Eating habits and eating disorders during pregnancy. *Psychosomatic medicine*, 54, 665-672.
- Fairburn, C.G., Welch, S.L. (1990). The impact of pregnancy on eating habits and attitudes to shape and weight. *International Journal of Eating disorders*, 13(2), 155-159.
- Fall, C., Chittaranjan, S., Rao, S., Davies, A., Brown, N., Farrant, H. (2003). Micronutrients and Fetal Growth, *J Nutr*, 133, 1747S-1756S.
- Fallon, Katzman, and Wooley (1994) *Feminist Perspectives on Eating Disorder*. Guilford Press.
- Feingold, M., Lyons, K., Chaudbury, A.K., Costigan, K., and Cetrulo, C.L. (1988). Bulimia nervosa in pregnancy: A case report. *Obstetrics and Gynaecology*, 71, 1025-1027.
- Fichter, M.M. and Pirke, K.M. (1989). Disturbances of reproductive function in eating disorders: .In: K.M. Pirke, W. Wuttke and U. Schweiger (eds), *The Menstrual Cycle and its disorders* ,pp.179-188.Berlin: Springer.
- Fichter, M.M. and Pirke, K.M. (1990). Endocrine dysfunctions in bulimia nervosa. In: M.M. Fichter (Ed), *Bulimia Nervosa: Basic Research, Diagnosis and Therapy*, pp.225-257. Chicester: John Wiley.
- Fichter, M.M. and Pirke, K.M. (1990b). Psychobiology of human starvation in anorexia nervosa. In: H. Remschmidt and M.H. Schmidt (Eds), *Anorexia Nervosa*, pp15-29. Stuttgart: Hogrefe and Huber.
- Ford, M., Dolan, B.M. (1989). Bulimia associated with repeated spontaneous abortion. *Int J Eating Disord*, 8, 243-245.
- Forsum, E. (2004). Energy requirements during pregnancy: old questions and new findings. *Am Journal of Clinical Nutrition*, Vol. 79, 6. 933-934.
- Foster, S.F., Slade, P. and Wilson, K., (1996). Body image, maternal foetal attachment and breastfeeding. *Journal of Psychosomatic Research*, 4(2), 181-184.
- Franzen, U., Gerlinghoff, M. (1997). Parenting by patients with Eating disorders: Experiences with a mother-child group. *Eating Disorders*, 5, (1) Spring 1997.
- Friis, H., Gomo, E., Nyazema, N., Ndhlovu, P., Krarup, H., Kaestel, P. and Michaelsen, K. (2004). Effects of Micronutrient supplementation on gestational length and birth size. *Am Journal of Clinical Nutrition*, 80, 1, 178-184.

- Frisch, R.E. (1983). Fatness and Reproduction: Delayed menarche and amenorrhoea of ballet dancers and college athletes. In Darby PL et al (eds) *Anorexia nervosa: Recent Developments in Research*, pp343-363
- Garfinkel, P.E. (1992). Evidence in support of attitudes to shape and weight as a diagnostic criterion of bulimia nervosa. *International Journal of Eating Disorders*, 11, 121-125.
- Garfinkel, P. and Garner, D. (1982). *Anorexia nervosa: A multidimensional perspective*. New York: Brunner/Mazel.
- Garner, D., Garfinkel, M. (1984). *Handbook of Psychotherapy for Anorexia nervosa and Bulimia*. New York: Guilford Press.
- Garner, D., Garfinkel, M., and O'Shaughnessy, M. (1985). The validity of the distinction between bulimia with and without anorexia nervosa. *Am J Psychiatry* May, 142:5
- Garner, D.M, Olmstead, M.P. and Polivy, J. (1983). Comparison between weight pre-occupied women and anorexia nervosa. *Psychosomatic medicine*, 46(3), 255-266.
- Glaser, B. (1978). *Theoretical Sensitivity*. Mill Valley, Ca: The Sociology Press
- Glaser, B. (1998). *Doing Grounded Theory: Issues and Discussions*. The Sociology Press.
- Glaser, B., (1994). *More Grounded Theory Methodology: A Reader*. The Sociology Press
- Glaser, B.G. and Strauss, A.L. (1967). *The discovery of Grounded Theory: Strategies for qualitative research*. New York: Aldine De Gruyter.
- Gluckman, P.D., Hanson, M.A. (2004). Living with the past: evolution, development, and patterns of disease. *Science* 305, 1733-1736
- Goestam, K.G., and Agrav, W.S. (1995). General population-based epidemiological study of Eating Disorders in Norway. *International Journal of Eating disorders*, 18, 119-126.
- Goldberg, G. and Prentice, A. (1994). Maternal and Fetal Determinants of Adult Diseases. *Nutrition Reviews*, Vol. 52, No.6
- Gordon, R. (1990). *Anorexia and bulimia: Anatomy of a social epidemic*. Cambridge, MA: Basil Blackwell.
- Griffiths, R., Beaumont, P., Beaumont, A., Touyz, S., Williams, H., and Lowinger, K. (1995). Anorexie a Deux: An ominous sign for recovery. *European Eating Disorders Review*, 3(1), 2-14.

- Gross, S., Librach, C. and Cecutti, A. (1989). Maternal weight loss associated with hyperemesis gravidarum: a predictor of fetal outcome. *Am J Obstet Gynaecol.* 160, 906-909.
- Hancock, B. (1998). An introduction to qualitative research. *Trent Focus for research and development in primary health care. Trent Focus*
- Hall, R.C.W., Tice, L., Beresford, T.P., Woolley, B. and Hall, A.K. (1989). Sexual abuse in patients with anorexia nervosa and bulimia. *Psychosomatics*, 30(1): 73-79.
- Halmi, K., Sunday, S., Strober, M., Kaplan, A., Woodside, D., Fichter, M., Treasure, J., Berrettini, W. and Kaye, W. (2000). Perfectionism in Anorexia Nervosa: Variation by Clinical Subtype, Obsessionality and Pathological Eating Behaviour. *Am J Psychiatry* 157:11
- Harding, J.E. (2001). The nutritional basis of the fetal origins of adult disease. *Int.J Epidemiology*; 30, 15-23
- Harvard Mental Health Letter (1997). Eating Disorders – Part I;14(4): 1-5.
- Harvard Mental Health letter (1997). Eating Disorders -Part II; Vol. 14, 5, 1-5
- Haworth-Hoepfner, S. (2000). The Critical Shapes of Body Image: The Role of Culture and Family in the Production of Eating Disorders. *Journal of Marriage and Family. Feb 62*, 212-227
- Heatherton, T.F. and Baumeister, R.F. (1991). Binge eating as escape from self awareness. *Psychol Bul* ,110, 86-108.
- Heatherton, T., Mahamedi, F., Streipe, M., Field, A. and Keel. (1997). A 10 Year longitudinal study of body weight, dieting and eating disorder symptoms. *Journal of Abnormal Psychology* 106, pp117-125.
- Hebebrand, J., Blum, W., Barth, N., Coners, H., Englaro, P., Juul, A., Ziegler, A., Warnke, A., Rascher, W. and Renschmidt, H. (1997). Leptin levels in patients with anorexia nervosa are reduced in the acute stage and elevate upon short-term weight restoration. *Mol Psychiat.*, 2, 330-334.
- Hibberd, R.A., Brack, C.J., Rauch, S. (1988). Abuse, feelings and health behaviours in a student population. *AJDC*, 142, 326-330.
- Hickey, C. (2000). Sociocultural and behavioural influences on weight gain during pregnancy. *Am Journal of Clinical Nutrition*, 71, 5, 1364s-1370s
- Hill, A., Draper, E., and Stack, J. (1994). A weight on children's minds: Body shape dissatisfaction at 9 years old. *International Journal of Obesity*, 18, 383-389.

- Hill, A., Oliver, S., and Roger, P. (1992). Eating in the adult world: The rise of dieting in childhood and adolescence. *British Journal of Clinical Psychology*, 31, 95-105.
- Hill, A.J., Weaver C., and Blundell, J.E. (1990). Dieting Concerns of 10 year old girls and their mothers. *British Journal of Clinical Psychology*, 29, 346-348.
- Hodes, M., Timini, S. and Robinson P. (1997). Children of Mothers with Eating disorders: A Preliminary Study. *Eur. Eating Disord Rev* 5(1), 11-24
- Hoeken, D., Seidell, J. and Hoek, H. (2005). Epidemiology. In J. Treasure, U. Schmidt and Evan Furth. *The Essential Handbook of Eating disorders*. (238pp) Chicester, Engl: J. Wiley & Sons, Ltd.
- Hood, J., Moore, T.E. and Garner, D.M. (1982). Locus of control as a measurement of effectiveness in anorexia nervosa. *Journal of Consulting and Clinical psychology*. 50, 3-13.
- Horta, J.L.H., Fernandez, J.G., Soto de Leon, B. and Cortes-Gallegos. (1977). Direct evidence of luteal insufficiency in women with habitual abortion. *Obstet. Gynaecol.*, 49, 705-708.
- Hsu, L., Crisp, A. and Callender, J.S. (1992). Recovery in anorexia nervosa-the patients perspective. *International Journal of Eating Disorders*, 11, 341-350.
- Institute of Medicine. Nutrition during Pregnancy. Part 1: Weight gain; Part 2: Nutrient Supplements. Washington D.C.: National Academy Press, 1990.
- Jacobs, B.W. and Isaacs, S. (1986). Pre-pubertal anorexia nervosa: A retrospective controlled study. *Journal of Child Psychology and Psychiatry*, 27, 237-250.
- James, D.C. (2001). Eating disorders, fertility and pregnancy: relationships and complications. *Journal of Perinatal and Neonatal Nursing*, 15(2),s: 36-48,2001Sep.
- Johnson S.L, Birch L.L, (1994). Parents and children's adiposity and eating style. *Paediatrics*, 94:653-661.
- Katon, W.J., Ries, R.K., Bokan, J.A., Kleinman, A. (1980). Hyperemesis gravidarum: a biopsychosocial perspective. *Int J Psychol Med* 10(20), 151-161.
- Katzman, M.A. and Wolchik, S.A. (1984). Bulimia and binge eating in college women: A comparison of personality and behavioural characteristics. *Journal of Consulting and Clinical Psychology* 52, 423-428

- Kendler, K., McLean, C., Neale, M., Kessler, R., Heath, A. and Eaves, L., (1991). The genetic epidemiology of Bulimia Nervosa. *Am J Psychiatry* 148, 1627-1637.
- King, Janet C. (2000). Physiology of pregnancy and nutrient metabolism. *Am J of Clinical Nutrition, Vol. 71, 5*, 12185-1225s.
- King, J. and Sachet, P. (2000). Supplements. *Am Journal of Clin Nutrition, Vol. 71, No 5*, 1217S-1217s, May 2000.
- Klump, K., McGue, M. and Iacono, WG. (2000). Age Differences in genetic environmental influences on eating attitudes and behaviours in preadolescent and adolescent twins. *Journal of Abnormal Psychology*, 109, 239-251.
- Klump, K.L., Kaye, W.H. and Strober, M. (2001a). The evolving genetic foundations of eating disorders. *Psychiatric Clinics of North America*, 24 (2), 215-225.
- Klump, K., Millar, K.B., Keel, P.K., McGue, M. and Iacono, W.G. (2001b). Genetic and environmental influences on anorexia nervosa syndromes in a population twin sample. *Psychological medicine*, 31(4), 737-740.
- Knuth, U.A., Hull, M.G.R. and Jacobs, H.S. (1977). Amenorrhoea and loss of weight. *British Journal of Obstetrics and Gynaecology*, 84, 801-807.
- Kopp, W., Blum, W., Ziegler, A., Lubbert, H., Emons, G., Herzog, W., Herpertz, S., Deter, H., Remschmidt, H. and Hebebrand, J. (1997). Low leptin levels predict amenorrhea in underweight and eating disordered females. *Mol Psychiat.*, 2, 335-340.
- Kreipe, RE., Strauss, J., Hodgman, CH. and Ryan, RM. (1989). Menstrual cycle abnormalities and sub clinical eating disorders: a preliminary report. *Psychosom Med*, 51, 1-86
- Larsson, G. and Andersson-Elstrom, A. (2003). Experiences of Pregnancy-related Body Shape Changes and of Breast – feeding in Women with a history of Eating Disorders. *European Eating Disorders Review*, 11, 116-124.
- Lacey, J. and Smith, G. (1987.) Bulimia nervosa: the impact of pregnancy on mother and baby. *Br J Psych*, 150, 777-781.
- Lee, S, Ho, T. and Hsu, L. (1993). Fat Phobic and Non- Fat Phobic anorexia nervosa: A comparative study. *Psychological Medicine*, 23, 999-1017
- Lemburg, R. and Phillips, J. (1989). The impact of pregnancy on anorexia nervosa and bulimia. *International Journal of Eating Disorders*, 8(3), 285-295.

- Leon, G., Fulkerson, J., Perry, C. and Early Zeld, M. (1995). Prospective analysis of personality and behavioural vulnerabilities and gender influences in the later development of disordered eating. *Journal of abnormal Psychology*, 104, 140-149.
- Levine, B. (1993). Nutrition recommendations and practices of obstetricians-gynaecologists before conception and during pregnancy. A national survey. In *Maternal Nutrition and Pregnancy Outcome*. Annals of the New York Academy of Sciences, 353-355
- Lilenfield, L, Kaye, W., Greeno, C., Merikangas, K., Plotnicov, K., Pollice, C., Rao, R., Strober, M., Bulik, C. and Nagy, L. (1998). A controlled family study of anorexia nervosa and bulimia nervosa: psychiatric disorders in first degree relatives and effects on proband co morbidity. *Archives of General Psychiatry*, 55(7), 603-610.
- Little, L., Lowkes, E. (2000). Critical issues in the care of pregnant women with eating disorders and the impact on their children. *American College of Midwives*. Elsevier Science Inc.
- Lofland, J. (1989). *Analysing social settings: A guide to qualitative observation and analysis*. Belmont, Ca: Wadsworth Publishing Company, Inc.
- Loro, A. and Orleans, C. (1981). Binge eating in obesity: Preliminary findings and guidelines. *Addictive behaviours*, 6, 155-166.
- Low, J., Galbraith, R., and Muir, D. (1978) Intrauterine growth retardation: a preliminary report of long term morbidity. *American Journal of Obstetrics and Gynaecology* 130:534-545.
- Lucas, A., Beard, W., O'Fallon, W. and Kurland, L. (1991). 50-year trends in the incidence of anorexia nervosa in Rochester, Minn.: a population- based study. *Am J Psychiatry*, 148. 917-922.
- Lunt, P., Carosella, N. and Yager, J. (1989). Daughters whose mothers have anorexia nervosa: a pilot study of three adolescents. *Psychiatric Medicine*, 7, 101-110.
- McCann, J., Stein, A., Fairburn, C., Dunger, D. Eating Habits and attitudes of mothers of children with non-organic failure to thrive. *Arch for Dis in Childhood*. In press
- McNicholas, F. (1996). Eating Psychopathology and its effect on pregnancy, infant growth and development. *Irish Journal of Psychological Medicine*, June; 13(2), 67-9

- Machan, J. and Waller, G. (1993). Maternal recall of management of childhood eating in anorexic and bulimic women: Maintaining food fussiness. *Eating Disorders Review*, 1, 32-40.
- Malina, R.M. (1983). Menarche in athletes: a synthesis and hypothesis. *Annals of Human Biology*, 10, 1-24.
- Marchi, M. and Cohen, P. (1990). Early Childhood eating behaviours and adolescent eating disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29(1), 112-117.
- Marcus, M.D., Wing, R.R., and Hopkins, J. (1988). Obese binge eaters: Affect, cognitions, and response to behavioural weight control. *Journal of Consulting and Clinical Psychology*, 3, 433-439.
- Marcus, M.D., Wing, R.R. and Lmparski, D.M. (1985). Binge eating and dietary restraint in obese patients. *Addictive behaviours*, 10, 163-168.
- Marsh, C.L. (1999). To be thin is in or is it? Recognising and measuring adolescent eating disorders. *Journal of Child and Family Nursing*, 2, 447-452.
- Masterson, J.F. (1977). *Primary Anorexia in the borderline adolescent-An object relations view*. In P.Hartocollis (ED), *Borderline Personality Disorders* (pp.230-251). New York: International Universities Press.
- Merialdi, M., Carroll, G., Villar, J., Abalos, E., Gulmezoglu, A.M., Kuller, R. and de Onis, M. (2003). Nutritional Interventions during Pregnancy for the Prevention or Treatment of Impaired Fetal Growth: An Overview of Randomized Controlled Trials. *J Nutr*, 1626S-1631.
- Merlin, R. (1992). Understanding bulimia and its implications in pregnancy. *JOGN. Journal of Obstetrics, Gynaecology and Neonatal nursing*, 21(3), 199-205.
- Meyer, J.E. (1971). Anorexia nervosa of adolescence: The central syndrome of the anorexia group. *British Journal of Psychiatry*, 118, 539-542.
- Miller, R.K., Faber, W., Asai, M., D'Gregorio, P., Ng, W.W., Shah, Y. and Neth-Jessee L., (1993). The role of the human placenta in embryonic nutrition: Impact of environmental and social factors. In *Maternal Nutrition and Pregnancy Outcome*. Annals of the New York Academy of Sciences, 92-107.
- Ministry of Health (1995). Food and Nutrition Guidelines for Healthy Pregnant Women. A Background paper.

- Minuchin, S., Rosman, B., and Baker, L. (1978). Psychosomatic families: Anorexia nervosa in context. Cambridge, MA: Harvard University Press.
- Mitchell, J.E, Fletcher, L., Gibeau, L., Pyle, R.L., and Eckert, E. (1992). Shoplifting in bulimia nervosa. *Comprehensive Psychiatry*, 33, 342ss-345.
- Mitchell, J.E., Seim, H.C., Glotter, D., Soll, E.A., and Pyle, R.L. (1989). A retrospective study pf pregnancy in bulimia nervosa *International Journal of Eating Disorders*, 10, 209-214.
- Mitchell-Gielegem, A., Mittelstaedt, M., and Bulik, C. (2002). Eating Disorders and Childbearing: Concealment and Consequences. *Birth* 29, 182-191.
- Mond, J., Hay, P., Rodgers, B., Owen, C. and Beaumont, P. (2004) Relationship Between Exercise Behaviour, Eating- Disordered Behaviour and Quality of Life in a Community Sample of Women: When is Exercise 'Excessive'? *Eur Eat Disorders Rev.* 12, 265-272.
- Moreno, A. and Thelan, M.H. (1993). Parental Factors related to Bulimia nervosa. *Addictive Behaviours*, 18, 681-689.
- Morgan, J., Lacey, J. and Sedgwick, P. (1999). Impact of Pregnancy on bulimia nervosa. *British Journal of Psychiatry*, 8(1), 55-63
- Morgan, W.P. (1979). Negative addiction in runners. *The Physician and Sports Medicine*, 7, 57-70.
- Mount Sinai (1965). Evolution of psychosomatic concepts-anorexia nervosa: A paradigm. *The International Psycho-Analytic Library* No.65
- Muscari, ME. (1998). Walking a thin line: Managing care for adolescents with anorexia and bulimia. *MCN: Am J Mater Child Nurs.*, 23, 130-141.
- Namir, S., Melman, K.N. and Yager, J. (1986). Pregnancy in Restrictor Type Anorexia nervosa: A study of six women. *International Journal of Eating Disorders*, 5, 837-845.
- Nillus, S.J. (1978). Psycho-pathology of weight related amenorrhoea. In: H. S. Jacobs (Ed). *Advances in Gynaecological Endocrinology*. London: Royal College of Obstetricians and Gynaecologists, pp118-130.
- Niswander, K. and Jackson, E.C. (1974). Physical characteristics of the gravida and their association with birthweight and perinatal death. *American Journal of obstetrics and gynaecology*, 119, 306-313.
- Nylander, J. (1971). The feeling of being fat and dieting in a school population: Epidemiologic interview investigation, *Acta Sociomedica Scandinavica*, 3, 17-26.

- Olsen, C. (1994). Promoting positive nutritional practices during pregnancy and lactation *American Journal of Clinical Nutrition*, 59, 525s-530s.
- Oppenheimer, R., Howell, K., Palmer, R.L. (1985). Adverse sexual experience in childhood and clinical eating disorders: A preliminary description. *J Psychiatr Res* 19(213): 357-361.
- Palmer, B. (2003). Concepts of Eating Disorders. In J. Treasure, U. Schmidt and E.van Furth *Handbook of Eating Disorders* (420pp) Chicester, England. John Wiley and Sons, Ltd.
- Palmer, B. (2005). Concepts of Eating Disorders. In J. Treasure, U. Schmidt and E.van Furth *Handbook of Eating Disorders* (238pp) Chicester, England. John Wiley and Sons, Ltd.
- Park, R., Senior, R. and Stein A (2003). The offspring of mothers with eating disorders. *European Child and Adolescent Psychiatry (Suppl 1)* 12,110-119.
- Pasman, L. and Thompson, J.K., (1988). Body image and eating disturbance in obligatory runners, obligatory weightlifters and sedentary individuals. *International Journal of Eating Disorders*, 7(6), 759-769.
- Patel, P., Wheatcroft, R., Park, R. and Stein A., (2002). The children of mothers with eating disorders. *Clinical Child and Family Psychology review*, Vol 5, No 1, March
- Pickard, B.M. (1986). Feeding children: in the beginning- nutrition and pregnancy. *Nutrition and Health*, 4(3), 155-166.
- Pidgeon, N., (1996). Grounded Theory: theoretical background. In J.T. Richardson (Ed). *Handbook of qualitative research methods for psychology and the social sciences* (pp.75-85). Leicester: BPS Books
- Pike, K.M.. and Rhodin, J., (1991). Mothers, daughters and disordered eating. *Journal of Abnormal Psychology*, 100, 198-204.
- Pinkston, M., Martz, D., Domer, F., Curtin, L., Bazzini, D., Smith, L. and Henson, D. (2001). Psychological, nutritional, and energy expenditure differences in college females with anorexia nervosa vs. comparable- mass controls. *Eating Behaviours*, 2, 169-181.
- Pirke, K.M., Fichter, M.M., and Schweigger, U. (1987). Gonadotropin secretion patterns on bulimia nervosa. *Int. J. Eating Dis.*, 6, 655-661

- Ramachandani, D. and Whedon, B. (1988). The effect of pregnancy on bulimia. *Int.J. Eat. Dis.*, 7(6), 845-848.
- Ramakrishnan, U. (2004). Nutrition and low birth weight: from research to practice. *Am J Clin Nutr*, Vol 79, No 1, 17-21.
- Rampling, D. (1978). Anorexia nervosa: Reflection of theory and Practice. *Psychiatry*, 41, 296-301.
- Rand, C.J.W., Willis, D.C. and Kaulday, J.M. (1987). Pregnancy after anorexia nervosa. *International Journal of Eating Disorders*, 6, 671-674.
- Rastam, M. and Gilberg, C. (1992). Background factors in anorexia nervosa: a controlled study of 51 teenage cases including a population sample. *European Child and Adolescent Psychiatry*, 1, 54-65.
- Reiff, D. and Reiff, K. (1992). *Eating Disorders: nutrition therapy in the recovery process*. Gaithersburg, Md: Aspen Publishers.
- Rhodin, J., Silverstein, L. and Streigel-Moore, R. (1985). Women and Weight: A normative discontent. *Nebraska symposium on Motivation: Vol 32 Psychology and Gender* (pp.267-307). Lincoln: University of Nebraska Press.
- Robb-Todter, G. (1996). *Women's Experience of Weight and Shape Changes During Pregnancy*. A Dissertation for the degree of Dr of Phil., University of Virginia.
- Rorty, M., Yager, J. and Rossotto, E. (1993). Why and how do women recover from bulimia nervosa? The subjective appraisals of forty women recovered for a year or more. *Int J. Eat. Dis.*, Vol. 14(3), 249-260.
- Rorty, M, Yager, J. and Rossotto, E. (1994a). Childhood sexual, physical and psychological abuse in bulimia nervosa. *Am J Psychiatry*, 151, 1122-1126.
- Rutherford, J., McGuffin, P., Katz, RJ. and Murray, RM. (1993). Genetic influences on eating in a normal female twin population. *Psychological Medicine*, 28, 93-108.
- Russell, G.F., Treasure, J. and Eisler, I. (1998). Mothers with anorexia nervosa who underfeed their children: their recognition and management. *Psychological Medicine*, 28, 93-108.
- Russell, G. (1995). Anorexia Nervosa through Time. In G. Szmukler; C. Dare, and J. Treasure (ed). *Handbook of Eating Disorders*. (420pp) Chiccester, Engl: J. John Wiley & Sons Ltd.

- Sanftner, J.L., Crowther, J.H., Crawford, P.A. and Watt, D.D. (1996). Maternal influences (or lack thereof) on daughters eating attitudes and behaviours. *Eating Disorders*, 4(2), 147-159.
- Schmidt, U., Hodes, M. and Treasure, J. (1992). Early onset bulimia nervosa: Who is at risk? *Psychological Medicine*, 22, 623-628.
- Schumaker, J., Warren, W., Carr, S., Schreiber, G. and Jackson, C. (1995). Dissociation and Depression in Eating Disorders. *Social Behaviour and Personality*, 23 (1), 53-38
- Schweiger, U., Laessle, R., Pfister, H., Hoehl, C., Schwingenschloegel, M., Schweiger, M. and Pirke, K.M. (1987). Diet Induced Menstrual Irregularities: effects of age and weight loss. *Fertil. Steril.*, 48, 746-751.
- Scott, D. (1987). The Involvement of psychosexual Factors in the causation of Eating Disorders: Time For a Reappraisal. *Inter J Eat Disord.*, 6, 199-213.
- Shearer, M.H. (1980). Malnutrition in middle-class pregnant women. *Birth and the Family Journal*, 7(1), 27-35.
- Skoog, D.K., Andersen, A.E., and Laufer, W.S. (1984). Personality and treatment effectiveness in anorexia nervosa. *Journal of Consulting and Clinical Psychology*, 40, 955-961.
- Smolak, L., Levine, M.P. and Schermer, F., (1999). Parental input and weight concerns among elementary schoolchildren. *International Journal of Eating disorders*, 25, 263-271.
- Sours, J. (1980). *Starving to death in a sea of objects: The anorexia nervosa syndrome*. New York: Jason Aronson.
- Speroff, L. and Redwine, D.B. (1980). Exercise and Menstrual Function. *The Physician and Sports medicine*, 8, 42-52.
- Spitzer, R.L., Devlin, M., Walsh, B.T., Hasin, D., Wing, R., Marcus, M., Stunkard, A., Wadden, T., Yanovski, S., Agras, S., Mitchell, J., and Nonas, C. (1992). Binge Eating disorder: a multisite field trial of the diagnostic criteria. *International Journal of Eating Disorders*, 11, 191-203.
- Srinivasagam, N.M., Kaye, W.H., Plotnicov, K.H., Greeno, C., Weltzin, M.D. and Radhika Rao, M.S. (1995). Persistent Perfectionism, Symmetry, and Exactness after Long-term Recovery form Anorexia nervosa. *Am J Psychiatry*, 152, 1630-1634.

- Starkey, T.A., Lee, R.A. (1997). Menstruation and fertility in anorexia nervosa. *AMJ Obstets*
- Stashwick C. (1997). When you suspect an eating disorder. *Contemporary OB/GYN*. 7; August: 78-113.
- Steiger, H., Zanko, M. (1990). Sexual traumata among eating disordered, psychiatric, and normal female groups. *J Interpers Violence*, 5, 74-86.
- Stein, Z., Susser, M., Saenger, G. and Marolla, F. (1975). *Famine and Human development: The Dutch Hunger Winter of 1944-1945*. New York: Oxford University Press.
- Stein, A., Woolley, H., Cooper, S.D., and Fairburn, C.G. (1994). An observational study of mothers with eating disorders and their infants. *Journal of Child Psychology and Psychiatry and Allied disciplines*, 35, 733-748.
- Stein, A., Murray, P, Cooper, S.D., and Fairburn, C.G. (1996). Infant growth in the context of maternal eating disorders and maternal depression: a comparative study. *Psychological Medicine*, 26, 569-574.
- Stein, A., Stein, J., Walters, E.A. and Fairburn, CG. (1995). Eating habits and attitudes among mothers of children with feeding disorders. *British Medical Journal*, 310, 228
- Stein, A. and Fairburn, C.G. (1996). Eating habits and attitudes to body shape and weight in the postpartum period. *Psychosomatic Medicine*, 58(7), 321-325.
- Stein, A. and Fairburn, C.G. (1989). Children of Mothers with bulimia nervosa. *British Medical Journal*, Vol. 299, p777.
- Stein, A., Woolley, H. (1996). The influence of parental eating disorders on young children: implications of recent research some clinical interventions. *Eating Disorders*, 4, 139-146.
- Stein, A., Woolley, H. and McPherson, K. (1999). Conflict between mothers with eating disorders and their infants during mealtimes. *British Journal of Psychiatry*, 175, 451-461.
- Stern, P. (1980). Grounded Theory Methodology. Its Uses and Processes. *Image*, VolXII, No.1.
- Stewart, D C. (1992). Reproductive Functions In Eating Disorders. *Annals of Medicine*, 24, 287-291.

- Stewart, D.E., Robinson, G.E., Goldbloom, D.S. and Wright, C. (1990). Infertility and eating disorders. *Am J Obstet Gynaecol*, 163, 1196-9.
- Stewart ,D.E., Rasking, J., Garfinkel, P.E., McDonald, O.L. and Robinson, G. E. (1987). Anorexia nervosa, bulimia and pregnancy. *American Journal of Obstetrics and Gynaecology*, 157, 1194-1198.
- Stice, E., Agras, S.W., Hammer, L.D., (1999). Risk factors for the emergence of childhood eating disturbances: a five-year prospective study. *International Journal of Eating disorders*, 25: 375-387.
- Stiles ,W.B. (1990). *Narrative in psychological research (visiting fellowship series No.1)*. Palmerston North: Massey University Psychology Department.
- Strauss, A. (1987). Introduction. *Qualitative analysis for social scientists* London: Sage Publications.
- Strauss, A. and Corbin, J. (1990). *The basics of qualitative research: A Grounded Theory, procedures and techniques*. California: Sage Publications.
- Strober, M. (1992). Family Factors. In P.J. Cooper and A. Stein (eds) *Feeding Problems and Eating Disorders in Children and Adolescents* Chur Harwood Academic publishers.
- Strober, M. (1983-1985). Personality factors in anorexia nervosa. *Paediatrician*, 12,134-138.
- Strober, M., Freeman, R., Lampert, C., Diamond, J., Kaye, W. (2000). Controlled Family Study of anorexia nervosa and bulimia nervosa: evidence of shared liability and transmission of partial syndromes. *American Journal of Psychiatry*, 157(3), 393-401.
- Sunday, S.R., Halmi, K.A., Werdann, L. and Levey, C. (1992). Comparison of Body Size Estimation and eating disorder inventory scores in anorexia and bulimia patients with obese, and restrained and unrestrained controls. *International Journal of Eating Disorders*, 11, 133-150.
- Susser, M. and Stein, Z. (1994) Timing in Prenatal Nutrition: a reprise of the Dutch Famine Study. *Nutrition Review* Vol 52, No. 3, 84-94.
- Sykes, D.K., Gross, M. and Subishin, S. (1986). Preliminary findings of demographic variable in patients suffering from anorexia nervosa and bulimia. *International Journal of Psychosomatics*.33, 27-30.
- Szmukler, Dare and Treasure. (1995) *Handbook of Eating disorders: Theory, Treatment and Research*. Chicester, Wiley and Sons.

- Thompson, B (1994). *A Hunger So Deep and So Wide*: University of Minnesota Press,
- Tice, L., Hall, R., Beresford, T., Quinones, and Hall, A.: Sexual abuse in Patients with Eating Disorders. *Psychiatric Medicine*: 7.257-267.
- Timimi, S. and Robinson, P. (1996). Disturbances in children of patients with eating disorders . *European Eating Disorder review*, 4, 183-188.
- Treasure, J.L. and Russell, G.F.M. (1988). Intrauterine growth and neonatal weight gain in babies of women with anorexia nervosa. *British Medical Journal*.296, 1038.
- Turton, P., Hughes, P., Bolton, H., and Sedgwick, P. (1999). Incidence and demographic correlates of eating disorder symptoms in a pregnant population. *International Journal of Eating Disorders*, 26, 448-452.
- Tylden, E. (1968). Hyperemesis and physiological vomiting. *J Psychosom Med*, 12,:85.
- Vandereycken, W. and van Deth, R. (1994). *From fasting saints to anorexic girls: a history of self-starvation*. The Athlone Press, London.
- Van der Spuy, ZM., Steer, P.J., McCusker, M., Steele, S.J. and Jacobs, H.S. (1988). Outcome of pregnancy in underweight women after spontaneous and induced ovulation. *Br Med J* ,296, 962-965.
- Villar, J., Meriald, M., Gulmezoglu, A.M., Abalos, E., Carroll, G., Kuller, R. and de Onis, M. (2003). Nutritional interventions during pregnancy for the prevention or treatment of maternal morbidity and preterm delivery: An overview of randomised controlled trials. *J Nutr*. 133(S): 1606S-162S.
- Wade, T., Martin, N.G., Neale, M.C., Tiggemann, M., Treloar, S.A., Bucholz, K.K., Madden, PA. and Heath A.C. (1999a). The structure of genetic and environmental risk factors for three measures of disordered eating. *Psychological medicine*, 29 (4), 925-934.
- Wade, T., Martin, N.G., Tiggemann, M., (1998). Genetic and Environmental risk factors for the weight and shape concerns characteristic of Bulimia nervosa. *Psychological medicine*, 29(4), 761-771.
- Waller, G., Calam, R. and Slade, P (1989). Family interaction and eating disorders. *British Journal of Clinical Psychology*, 28, 285-286.
- Waller,J.V., Kaufman, M.R., and Deutsch, F, (1940). Anorexia nervosa: A psychosomatic entity. *Psychosomatic Medicine*, 2, 3.

- Waugh, E., and Bulik, C. (1999). Offspring of women with eating disorders. *Int J of Eating disorders*, 25, 123-133.
- Webb, S.A. (1982). *Anorexia nervosa - Its Nature and Treatment: A Phenomenological Investigation. Thesis.* M.Phil in Education at Massey University 1982.
- Welch, S.T., Doll, H.A., Fairburn, C.G., (1997). Life events and the onset of Bulimia nervosa: A controlled study. *Psychological Medicine*, 27, 515-522.
- Welch, S.L. and Fairburn, C.G. (1996). Childhood sexual and physical abuse as risk factors for the development of bulimia nervosa: a community-based case-control study. *Child Abuse Negl* 20, 633-642.
- Wentz, A.C. (1980). Body weight and amenorrhoea. *Obstetrics and Gynaecology*, 56, 482-487.
- Whelan, E. and Cooper, P.J. (2000). The association between childhood feeding problems and maternal eating disorder: A community study. *Psychological medicine*, 30, 69-77.
- Welch, S., Doll, H., and Fairburn, C. (1997). Life events and the onset of bulimia nervosa: a controlled study. *Psychological Medicine*, 27(3), 515-522
- Whitehouse, P. and Harris, G. (1998). The Intergenerational transmission of eating disorders. *Eur. Eat Dis Review*, 6(4), 238-254.
- Williams, G.J., Chamove, A.S. and Millar, H. R. (1990). Eating Disorders, perceived control, assertiveness and hostility. *British Journal of Clinical Psychology*, 29, 327-335.
- Wilson, C.P. (1983). The fear of being fat in female psychology. In C.C. Hogan, I.L. Minttz, and C.P. Wilson (Eds). *Fear of being fat: the treatment of anorexia nervosa and bulimia* (pp9-27). New York: J. Aronson.
- Wonderlich, S.A., Brewerton, T.D., Jolic, Z., Dansky, B. and Abbott, D. (1997). Relationship of childhood sexual abuse and eating disorders. *J Am Acad Child Adolesc Psychiatry*, 36, 1107-1115.
- Wonderlich, S.A., Crosby, R.D., Mitchell, J.E., Roberts, J., Haseltine, B., DeMuth, G. and Thompson, K. (2000). Relationship of childhood sexual abuse and eating disturbance in children. *J Am Acad Child Adolesc Psychiatry*, 39, 1277-1283.
- Wonderlich, S.A., Donaldson, M.A., Carson, D.K. (1996a). Eating Disturbance and Incest. *J Interpersonal Violence* 11:195-207.

- Wonderlich, S.A., Wilsnack, R.W., Wilsnack, S.C. and Harris, T.R. (1996b). The relationship of childhood sexual abuse and bulimic behaviour: results of a US national survey. *Am J Public Health*, 86, 1082-1086.
- Woodside, D.B. and Shekter-Wolfson, L.F. (1990). Parenting by parents with anorexia nervosa and bulimia nervosa. *International Journal of Eating Disorders*, 9, 303-309.
- Wright, P. (1987). Hunger, satiety and feeding behaviour in early infancy. In R.A.Boakes, D.A. Popplewell and M.J. Burton (eds.) *Eating Habits, Food, Physiology and Learned Behaviour* New York: John Wiley and Sons
- Wynn, M. and Wynn, A. (1981). *The Prevention of Handicap of Early Pregnancy Origin*. London: Foundation for Education and Research In Childbearing.
- Yellowlees, A.J. (1985). Anorexia and Bulimia in Anorexia nervosa. *British Journal of Psychiatry*, 146, 648-652.
- Zipfel, S., Lowe, B. and Herzog, W. (2005). Medical Complications. In J. Treasure, U. Schmidt and E.van Furth *Handbook of Eating Disorders* (238pp). Chicester, England. John Wiley and Sons, Ltd.
- Zipfel, S., Specht, T., Blum, W., Englaro, P., Hebebrand, J., Hartmann, M., Wuster, C., Ziegler, R., and Herzog, W. (1998). Leptin - a parameter for body fat measurement in patients with eating disorders. *Eur. Eat. Disord. Rev.*, 6, 38-47