Knowledge of and Attitude to Hormone Replacement Therapy and Menopause among Mid-Aged New Zealand Women

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ABSTRACT

The use of Hormone Replacement Therapy (HRT) by women at menopause is increasing in New Zealand, although there are controversies and confusion surrounding its prescription and efficacy. There has been very little research carried out in New Zealand regarding the variables that impact on HRT use by women, and the attitudes and knowledge of women regarding HRT use. To address this, a survey of 495 mid-aged women, randomly selected from the electoral roll was carried out. The survey measured demographic variables, knowledge of HRT, attitudes to HRT and menopause, and health variables. This study found that knowledge of HRT was high, however, many New Zealand women reported reasons for HRT use that are not empirically supported. This study also found that attitudes to HRT and menopause are important predictors of HRT use, possibly more important than health variables. The importance of attitudes in predicting HRT use needs further clarification to allow the promotion of appropriate information to inform mid-aged women's HRT decision making.

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Women are now living longer following menopause than ever before. This increase in life span has potential health implications for mid-aged women. Following menopause the hormone oestrogen is produced in decreasing amounts. The decrease in circulating oestrogen levels is associated with a number of negative health outcomes, such as an increase in osteoporosis and heart disease, as well as short term symptoms such as hot flushes and urogenital atrophy (Defey, Storch, Cardozo, Diaz & Fernandez, 1996). Attempts to alleviate these conditions have focussed on replacing the decreasing oestrogen with synthetic oestrogen. This therapy is called hormone replacement therapy (HRT) and is designed to reduce symptoms that are caused by the reduction in naturally occurring oestrogen following menopause.

HRT is not a recent medical discovery and it has a controversial history. Oestrogen replacement therapy (ERT) has been prescribed for the relief of menopausal symptoms since the 1930s (Shelley, Smith, Dudley & Dennerstein, 1995). The use of ERT was seriously questioned in the 1970s following increasing evidence of a link with endometrial cancer. A report published in 1975 concluded that the risk of endometrial cancer was increased 7.6 times in women using oestrogen over controls (Ziel & Finkle, 1975, cited in Coney, 1991). This study showed that the risk was even greater for those who used oestrogen for seven years or longer, increasing to 14 times the risk of non-users. This did not end the hormonal treatment of menopause, however. Progesterone was added to the treatment to avoid a build up of the uterine lining. This new hormone replacement therapy (HRT) was purported to have overcome the difficulties of its predecessor. Although women using this new combined hormone therapy have a reduced rate of endometrial cancer compared to those using oestrogen only hormone treatment (ERT), its use does present some new problems. An often unwelcome result of this mix is the return of menstrual periods. Progesterone may also introduce premenstrual syndrome symptoms in postmenopausal users of HRT. These side effects of HRT are a common cause of discontinuing use (Coney, 1991).

HRT is reported to be of benefit in reducing hot flushes, urogenital atrophy, incontinence, osteoporosis, and cardiovascular disease (Mayeaux & Johnson,

1996). These authors also state that an increase in well-being, decrease in depressed mood, improvement in rheumatoid arthritis, and improvement in skin appearance are benefits of HRT supported by observational evidence. It is important to note that controversy surrounds these observed advantages of HRT use, as they are not scientifically substantiated. This controversy is fuelled by studies such as that by Pearce et al. (1997) which found that there was no difference in psychological and psychiatric symptoms in women who received HRT or a placebo. As a result, these authors caution that women presenting with recurrent psychological symptoms should be re-assessed as they may have normal premenopausal hormone levels and considerable psychological stressors. Replacement hormones are unlikely to remedy these psychological distresses unrelated to hormone level.

Research also suggests that the long term use of HRT has both benefits and risks. Generally HRT is considered to increase the risk of breast and ovarian cancers and reduce the risk of heart disease and osteoporosis. Shelley et al. (1995) report that users of HRT may have a small net gain in life expectancy with long term use. This finding must be considered in light of several studies which indicate that women seldom continue to take HRT in the long term (Klein & Dumble, 1994; Oddens, Boulet, Lehert & Visser, 1994; Shelley et al, 1995). Even for those women who do continue to take HRT in the long term, Coney (1996) describes the increase in life expectancy as trivial. She reports that an average 50 year old woman reduces her risk of a hip fracture from 15% to 12% with HRT, and increases her life expectancy by one month. Current perspectives indicate that the risks and benefits of HRT must be managed on a case by case basis with consideration of women's family history of illness and symptom levels (Holm, Penckofer & Chandler, 1995).

HRT has been prescribed for mid-aged women to alleviate a variety of menopausal symptoms such as hot flushes, night sweats, and skin changes for several decades (Hunskaar & Backe, 1992). More recently the benefits of postmenopausal oestrogen in reducing the incidence of osteoporosis and heart disease have been emphasised (Haines, Rong, Chung & Leung, 1995). This change in focus from the treatment of specific menopausal symptoms to long

term preventive treatment considerably changes the role that HRT is to play in menopausal and postmenopausal women's lives.

As a reduction in heart disease and osteoporosis would provide considerable savings in national health care, women may be increasingly encouraged to medicate themselves to reduce the burden they place on the health care system. Notelovitz (1989) promotes this view by stating that hormone use will result in socioeconomic benefit to both the individual and her community. Increasingly, nursing and general practitioner journal articles focus on enhancing women's compliance and encourage women to endure side effects in order to realise long term gains in life expectancy (e.g. Abernathy, 1994). As Sandra Coney (1991) states "against the weighty matter of increased survival, women can only protest about 'trivial' matters such as return of menstruation and weight gain" (p.26). Women are pressured to value longevity beyond all else; yet Griffiths (1995b) states that although HRT taken for prevention of disease may make it less likely that women will die of a hip fracture, it may leave them more likely to reach a stage of dementia, which is reported as a future health concern by more than four times as many women as those who report osteoporosis.

The suggestion that all mid-life women should be encouraged to use HRT to reduce long term illness has prompted fears that a normal part of aging has been medicalised by health care professionals. Medicalisation is the process of defining and treating human experiences as medical conditions (Blackwell & Blackwell, 1997). The medicalisation of menopause is aided by its inclusion in the 1990 Merck Manual of Geriatrics as a metabolic and endocrine disorder (Gannon & Eskstrom, 1993). Medicalising menopause determines that all women, when suspecting the beginning of menopause, be evaluated by their physician and treated with oestrogen for the rest of their lives (Gannon & Eskstrom, 1993). Labeling menopause as a disease does not end there, however, as women on HRT are locked into the medical care system (Coney, 1991). Women on HRT receive more treatment and tests than other women. These include mammograms, endometrial biopsies and interventions to counteract the negative side effects of HRT (Coney, 1991).

Advocates of the life-span perspective have much to say about promoting the medication of all postmenopausal women and the medicalisation of menopause in general. The life-span perspective approaches menopause as a natural age-related phase of a woman's life that has been medicalised in order to empower physicians to diagnose and treat it as a medical event (Dietsch, 1995). The life span model suggests that hot flushes and emotional turmoil may accompany menopause, but these are indicative of a normal transition, not a disease process (Gannon & Eskstrom, 1993). This perspective is pitted against the medical perspective, which treats menopause as an endocrine deficiency disease similar to diabetes. The example of diabetes is commonly used to provide menopausal women with an understanding of how HRT will overcome their hormonal deficiencies following menopause (Queen Victoria Hospital Foundation, 1988). One obvious difference between menopause and diabetes is that the former will occur to all women who reach mid life, whereas the latter only occurs in a diseased proportion of the population, is not mentioned. As Coney (1991) succinctly states "medicine has determined that in her normal state, the mid-life woman is sick" (p.16).

LaRocco and Polit (1980) seem to provide a middle ground between these views. They state that women should be educated to understand menopause as a "natural, normal life event which may not require medical attention; but that, if desired, certain effective treatments for the alleviation of symptoms have been developed and are available" (LaRocco & Polit, 1980, p.13). This indicates that medication is not required for all mid-life women, but should be restricted to those women who experience difficulties at this time. This approach is echoed in the New Zealand health service by the Core Services Report (National Advisory Committee, 1994) which states that HRT is recommended for women experiencing symptoms which disrupt their quality of life, but this treatment should only be continued while symptoms persist. Long term use of HRT is not recommended for use in mid-life women without specific risk factors for disease.

The controversies surrounding HRT are further complicated by the pharmaceutical industry's promotion of HRT. Simply put, HRT is big business. Oestrogen generates billions of dollars a year in sales. Premarin, the leading brand of oestrogen in the United States, has been among the 50 best selling drugs in the United States for three decades, and is said to be the third most commonly prescribed drug (Garrett, 1992, cited in Klein & Dumble, 1994). New Zealanders, too, show a growing interest in HRT. Coney (1996) reports that from 1992 to 1996 the cost of HRT to New Zealand increased by 90% from $5 million to $9.4 million. She also quotes Pharmac, the New Zealand agency that makes decisions regarding the public funding of medications, who predict that by 1998/99 this may grow to $12 million a year (Coney, 1996). This represents a considerable industry and involves an estimated 18% of all New Zealand women between 50 and 70 years.

As a result of this large scale and increasing use of HRT, the Core Services Report (National Advisory Committee, 1994) made recommendations for the use of HRT by New Zealand women. These recommendations state that all women should have access to unbiased, accurate information about menopause, and the effects, and side effects, of HRT. They also state that women must have access to information regarding their own level of risk for the long term diseases that HRT may influence. To follow these recommendations it is essential that more information be known about the level of knowledge and attitudes towards HRT and menopause in New Zealand women. Many mid-aged women in New Zealand currently use HRT. More information on these women, and the knowledge that they base HRT use decisions on, is required to understand the basis for the increasing rate of HRT prescription.

HRT Use

There is very little basic knowledge on the level of HRT use in New Zealand. Although the report of the Consensus Development Conference (1993) suggests the prevalence of HRT use is similar to that reported for the United Kingdom (10%), the later Core Services Report (National Advisory Committee, 1994) itself suggests that the rate of HRT use by New Zealand women is similar

both to Australia, known to be approximately 30% (France, Lee & Schofield, 1996), and the UK. A non-random sample of Christchurch women found that 30% had used HRT at some time (Society for Research on Women in New Zealand (SROW), 1988). Very different rates of HRT use have been reported with samples in Australia, the United States, and European countries. Oddens et al. (1994) report a large variation in HRT use in a variety of Western European countries, with 3% and 4% using HRT in Italy and Netherlands respectively, and up to 25% in Western Germany. Newton et al. (1997) surveyed 1082 women aged 50-80 who were enrolled at a health service in Washington. They found that 43% of this sample were current users of HRT, 21% were past users, and 37% had never used HRT. Blumberg et al. (1996) report that 12% of their sample from central Israel were current users of HRT and another 10% had used HRT in the past. There are also cultural and social differences in attitudes to menopause and HRT among women in Western countries and it is unclear what New Zealand women know about the risks and benefits of HRT, or how they make their choices, from the complexity of information available, regarding its use.

The reasons that HRT use is initiated by mid-life women is also important in understanding the increasing rate of HRT prescription. The reasons that current and past users in Newton et al.'s (1997) sample cited for initiating HRT use were for menopausal symptoms, to prevent osteoporosis, and on physician's advice. A smaller percentage of current users and past users in this sample initiated HRT use for depression, anxiety, or emotional distress. Swiers (1996) found that 77% of the English women in her sample had initiated HRT use for menopausal symptoms. Similarly, Garton, Reid and Rennie (1995) found that 80% of HRT users in their sample were taking it for relief of immediate symptoms; only 6% were taking HRT for prevention of osteoporosis. Barlow, Grosset, Hart and Hart (1989) reported that almost half of their sample of 424 mid-aged Glaswegians had felt in need of treatment for menopause. Of these women 43% mentioned that treatment was needed for psychological symptoms and a further 26% for tiredness. There is no empirical evidence to suggest that HRT is successful in treating these symptoms (Greene, 1984). The Core Services Report (National Advisory Committee, 1994) recommends

HRT for specific symptoms associated with menopause such as hot flushes and vaginal dryness, and for prevention of disease. The report specifically states that HRT is not recommended as a treatment for depression or memory loss. It is important to discover if women in New Zealand are initiating HRT use to treat the psychological symptoms of menopause.

Reasons for initiating HRT use are closely related to the length of time that women continue to use HRT. Most women begin HRT to control troubling menopausal symptoms such as hot flushes and night sweats (Brockie, 1994). Most do not begin HRT with the view to long term disease prevention. Correspondingly, they cease taking HRT when the menopausal symptoms cease. This use of HRT is consistent with the recommendations of the Core Services Report (National Advisory Committee, 1994) which suggests that HRT should only be continued until ceasing it does not cause the return of symptoms.

Many women are reluctant to take HRT in the long term with one study reporting that fewer that 20% of women take HRT for more than 1 year (Abraham, Perz, Clarkson & Llewellyn-Jones, 1995). Research also indicates that 20% of women fail to even fill the prescription for HRT (Gonyea, 1996). Shelley et al. (1995) conclude that the short term side effects of HRT combined with the fear of long term side effects make long term use of HRT acceptable to few women.

A variety of reasons have been reported for ceasing HRT use. Reasons for ceasing HRT use given by women in Barlow et al.'s (1989) study were side effects, physician's advice, and fear of cancer. Not wanting periods was also strongly associated with ceasing HRT use. Swiers (1996) found that one quarter of her sample had considered stopping HRT use because their symptoms had subsided and 17% considered stopping because the symptoms for which they were prescribed HRT were not subsiding. A further 8% said the cost of prescriptions was prohibitive to continuing HRT. This indicates the variety of factors that may influence whether HRT use is maintained.

A variety of variables have been found to influence HRT use. Hegarty and Khaw (1996) found that more educated British women and women in higher status occupational categories were more likely to use HRT than women in lower status occupational categories. Newton et al. (1997) found that current users of HRT in the United States were younger, better educated, and more likely to be married than women who had never used HRT.

Health variables have also been found to influence HRT use. Shelley et al. (1995) found that a variety of health status and healthcare utilisation factors were associated with HRT use. Women who had experienced hot flushes and women who suffered from a chronic condition were more likely to report HRT use. France et al. (1996) did not find a relationship between HRT use and current levels of symptom experience or wellbeing. They did find that current and previous users of HRT reported having previously experienced a higher level of symptomatology.

Although previous studies indicate a variety of factors that are associated with HRT use, these relationships are complex. For example, Sinclair et al. (1993) found that the low use of HRT in 1122 Scottish women did not reflect attitude towards HRT, as the majority agreed that menopause was a medical condition that required treatment. The most common reason these women gave for not taking HRT was that they had never thought of it. In addition to this, cultural differences exist in levels of symptom reporting, which is usually the main precursor to consulting a physician about HRT (Haines et al., 1995). A lower level of symptom experience may result in a lower level of HRT use, but may not reflect attitudes towards or knowledge of HRT. These findings suggest that there is no simple relationship between knowledge of and attitudes towards HRT and HRT use.

Women's attitudes to HRT are not the only important factor in interpreting HRT prescription patterns. Doctor's attitudes to HRT are also important. Previous studies have reported that the level of HRT use in a country may, for the most part, reflect the prescribing inclinations of the general practitioners, rather than the women's attitudes to HRT (Oddens et al, 1994). Groeneveld et al. (1995)

report that considerable differences in prescribing behaviour occur between doctors, particularly when women do not present with typical symptoms of menopause. This further complicates the relationship between knowledge, attitudes, and HRT use. The increasing level of HRT use in New Zealand may reflect the attitude of New Zealand doctors to HRT, rather than women's attitudes.

Knowledge of HRT

The first recommendation of the Core Services Report (National Advisory Committee, 1994) was that all women should have access to unbiased, accurate information concerning both the effects of HRT on menopausal symptoms, and the side effects of HRT. However, previous research suggests substantial gaps in Australian women's knowledge of HRT. France et al. (1996) found that use of HRT in Australian women was weakly related to knowledge, even among current users, with one in three unable to name any short-term benefits and over half unable to name any long-term benefits of HRT.

Studies in other countries have also found differing levels of knowledge. Griffiths' (1995b) study looked at women's knowledge of risk factors for osteoporosis and cardiovascular disease. She discovered that 74.9% of the sample of 1225 English women identified lack of oestrogen as a risk factor for osteoporosis, yet only 6.6% identified the same as a risk factor for cardiovascular disease. A recent study in the United Kingdom (Okon, Lee & Li, 1996) sampled 99 women who were either considering HRT or experiencing problems with HRT. This study reported that 91% of women identified prevention of osteoporosis as a benefit of HRT and 70% expected prevention of cardiovascular diseases. These considerably different results may stem from different sample types as Okon et al.'s (1996) sample sought advice on menopausal symptoms or were having problems with HRT, whereas, Griffiths' (1995b) used a random age stratified sample from medical practice lists. Thus, it is likely that women with concerns regarding menopausal symptoms or HRT may be more knowledgeable about these areas than a random sample of women.

Studies have shown that women know of a variety of benefits of HRT use. Swiers (1996) found that 43 women prescribed HRT considered preventing osteoporosis as the most important reason for taking HRT, followed by hot flushes and preventing vaginal dryness. France et al. (1996) found that 60% of respondents knew physical symptom relief was a reason for HRT use. Fifty-one percent of HRT users in this sample indicated an improvement in emotional well-being as a reason for use of HRT. However, Greene (1984) states that there is no scientific evidence that HRT has a direct effect on psychological symptoms.

Hunskaar and Backe (1992) asked women's opinions on risks associated with HRT. The majority of these women did not express any opinion on whether HRT influences the risk of heart infarction, stroke, breast cancer or cancer generally. Of those who did respond, more than half believed that HRT increased the risk of all four conditions. Sinclair et al. (1993) found that HRT users were more likely to know of potential side effects of HRT than to name benefits of the treatment. This finding suggests that the decision to take HRT is not necessarily based on the informed choice of the woman.

An important aspect of knowledge of HRT is the alternatives to HRT that are available to mid-life women. Questions concerning alternatives to HRT provide insights into those symptoms of menopause which women consider are treated by HRT. Women in Padonu et al.'s (1996) focus group study mentioned a variety of ways to deal with menopausal symptoms without HRT. They mentioned stress reduction, exercise, spirituality, and diversion such as getting something nice for themselves. Tactics to relieve hot flushes included avoiding certain fabrics, using fans, going outside, and reducing salt intake. Other alternatives to HRT mentioned were nonprescription medications such as aspirin and vitamins. These alternatives indicate that women consider HRT a treatment for both the vasomotor symptoms and the psychological symptoms of menopause.

The levels of knowledge concerning HRT are influenced by a variety of demographic variables. Sinclair, Bond and Taylor (1993) found that women had a poor knowledge of the potential risks and benefits of oestrogen, with lack of knowledge greatest in less educated and older women. Hunskaar and Backe (1992) reported that increasing educational levels polarised women's views of the risks of HRT, a higher percentage stating both that HRT increased and decreased the risks of a variety of health outcomes. This finding may indicate a higher level of information gathering in this educational group, but a varying level of knowledge based on scientific research.

Knowledge of HRT has also been related to menopausal status. LaRocco and Polit (1980) found that a total of 58% of women agreed that use of oestrogen drugs would usually eliminate or decrease the symptoms of menopause. Within this total, premenopausal women were more likely to respond correctly, followed by menopausal women. Postmenopausal women were least likely to respond correctly to this question. As this study was published 19 years ago, it is likely that the more knowledgeable premenopausal women will now be past menopause. As a result, higher levels of knowledge would be expected in women at all stages of menopause than previously found.

France et al. (1996) suggest that women require a clearer understanding of the effects of HRT to encourage them to take control of their own health care. This understanding can best be provided if the extent of women's current knowledge about HRT is understood. Health promoters can then target misinformation and lack of information in particular areas. Research on the extent of women's knowledge of HRT is required to address the imbalance between the current state of knowledge and the level of knowledge required for women to make informed decisions regarding their own health care.

Information Sources

Mid-aged women have cited a range of information sources as providing information on menopause and HRT. Previous studies have found that friends and reading materials are important sources of information on menopause

(Haines et al., 1995; Hunter & Liao, 1994; Kilshaw, 1990). Garton et al. (1995) reported that doctors were the third most important sources of information on menopause, following friends and women's magazines. Oddens et al. (1994) report that 88% of a sample of 300 women in Denmark had received information on HRT and menopause from the media, whereas only 24% had received information from medical practitioners. Knowledge of women's sources of information on HRT will allow promotion of information through salient information channels.

Griffiths (1995a) investigated the media as a source of information on HRT. The women in this study were asked to describe the most striking things they had read or heard about HRT in the media. Fifteen percent of those answering this question had not heard anything about HRT in the media. The remaining 85% reported a variety of information on HRT from the media. The largest percent of responses mentioned that HRT helps menopausal symptoms (14%). Preventing osteoporosis was mentioned by 10% of respondents, and preventing aging by almost nine percent. When all statements concerning youthfulness, increased activity and health, increased wellbeing and the magical properties of HRT were combined, these positive images of HRT were mentioned more than any other topic. In general, four times as many women mentioned that they had heard positive aspects of HRT in the media as negative aspects. This positive image presented by the media may provide unrealistic expectations of the benefits of HRT use to mid-life women.

In addition, this study asked women about the usefulness of media information. Forty-seven percent of the women in this study found information provided by the media helpful while 30% indicated media information was not helpful. In addition, almost half considered that the information provided by the media was correct, and 17% considered that it was not correct. This study illustrates the enormous impact of the media as a source of information on HRT.

The level of information received from the media can be contrasted to that which is provided by health professionals. Swiers (1996) questioned a group of women using HRT about their knowledge of HRT and osteoporosis. She found

that 23% of the women had been given no reason for starting HRT and 60% were given no information about possible side effects of HRT by their doctor. Only 24% had been told by their doctor that HRT could prevent osteoporosis, although 95% were aware that HRT could prevent osteoporosis. Eighty-eight percent of these women had obtained this information from the media. This indicates that the media is a major source of information on HRT even for women who are currently using HRT.

Griffiths (1995a) reported important differences in information sources according to HRT use. Those women who had never considered taking HRT received most of their information from the media and friends and relatives. Women who had considered HRT, but not taken it, also received most of their information from these sources, but were four times more likely to have consulted a doctor or nurse. Women who had taken HRT still received substantial amounts of information on HRT from the media, but were much more likely to also have cited doctors as a source of information. This result raises interesting questions about the relationship between doctors as information sources on HRT and HRT use.

The controversies surrounding the risks and benefits of HRT use create a potential minefield of information sources that mid-aged women must navigate in an attempt to make an informed choice concerning HRT. The popular media, in particular, presents a wide range of approaches to menopause and HRT. Much of the easily accessible information on HRT is provided by drug companies in the form of doctor's waiting room brochures and by providers of alternative health care products such as herbal medicines, and dietary advice. Both these sources promote an understanding of menopause as a time of disruption and disease. A recent New Zealand pharmacy brochure states that "the majority of women have a very rough ride through the menopausal years" (Amcal Chemists, 1997, p.30). This creates an overwhelmingly negative picture of menopause. The title of this brochure article is also highly misleading: "HRT - The modern miracle". However, research not only indicates that many women experience the menopausal years as positive (Avis & McKinlay, 1991), but also that HRT is far from a miracle, the side effects of which may cause women to

cease treatment (Garton et al, 1995). Pharmaceutical companies also promote this misinformation on HRT. For example Ayerst Laboratories (1991) promote HRT use as an effective treatment for "anxiety, depression, mood changes, loss of memory and a feeling of being unappreciated or unloved" (p.3). The pervasive nature of this misinformation may have a profound effect on women's knowledge of and attitudes to HRT. These sources of information which are freely available for all women may provide a highly biased set of menopausal "facts" on which women may subsequently base their decisions.

The media may also present highly simplified research findings to mid-aged women. A recent television news bulletin (Television New Zealand, 1998) reported findings from a medical study on the increased risk of heart attacks in HRT users with heart disease. This bulletin stated that "women with heart problems who already take oestrogen should stick with it because the risk is already passed, but if they're not taking it yet they probably should not start". These simplified findings do not consider that the findings of this study are limited to women with serious heart disease. The message of this bulletin was clear; HRT may kill you within the first two years of treatment. Information regarding the extent of the increase in heart disease and the limitations of the study were not presented.

Information provided by doctors carries no stamp of objectivity either. Much of the information on HRT is provided to doctors by pharmaceutical company videos and marketing tools (Coney, 1991). Videos containing a panel of expert specialists and general practitioners extol the wonders of HRT, glossing over the difficult issues of contraindications and risk factors.

Information sources on menopause are also important in understanding HRT use. Padonu et al. (1996) found that some women viewed the health care system as not providing satisfactory information regarding personal concerns about menopause. Women in this group were also concerned that doctors would perceive them as having mental problems, and they were worried about asking "dumb" questions. In this group of African-American women, books and other women were the primary sources of information on menopause.

The complexity of the relationship between information sources and HRT use makes it imperative that women's sources of information on HRT and menopause are investigated.

Attitude to Menopause

Despite a general belief in the lay and medical literature that menopause is a time of depression, loss and decay in women (Defey et al, 1996), research has suggested that menopause is a positive time for many women. Avis & McKinlay (1991) report that the majority of their sample of 2565 women from Massachusetts felt relief or neutral feelings about menopause. Those women who did report negative attitudes towards menopause had higher levels of symptom reporting and depression. These authors concluded that the menopausal syndrome was more related to personal characteristics than to menopause per se. Gonyea (1996) reports that the depression and fatigue commonly linked with menopause are strongly associated with women's economic status and the burden of multiple demands such as paid employment, children, ailing husbands and frail parents. This author interpreted these findings to indicate that symptoms associated with menopause may be more related to the difficulties of coping with this stage in life for some women, than a reaction to decreasing oestrogen levels.

Padonu et al. (1996) found that African-American women perceived menopause as a natural, transitional stage related to aging. Other perceptions of menopause included freedom from pregnancy, and changing roles, such as becoming a grandmother. Another perception of menopause these women mentioned is that it effects individual women differently. Although both physical and emotional symptoms were recognised by this group of women, they indicated that the emotional symptoms were more negative and troublesome than the vasomotor symptoms.

Wagner, Kuhn, Petry & Talbert (1995) found that attitudes to menopause varied over a broad range compared to the narrow range of attitudes to HRT. In

general, this sample of 252 college-aged and mid-aged women viewed menopause as a natural event and approached it with a balanced, optimistic attitude. France et al. (1996) measured positive and negative affect and found that the menopausal women studied had slightly higher positive affect and slightly lower negative affect than comparative data from college students. These studies provide no evidence that the menopausal stage is associated with elevated levels of psychological distress.

Bowles (1992) is just one of a number of researchers (e.g. Standing & Glazer, 1992; Theisen, Mansfield, Seery & Voda, 1995; Wagner et al., 1995) who have reported that older women have significantly more positive attitudes towards menopause than younger women, with women who have experienced menopause having the most positive attitudes (Gannon & Eskstrom, 1993). This may indicate that the expectation of menopause is significantly more negative than the reality that these women experience. Therefore, on reaching menopause, the more positive reality improves women's attitudes to menopause.

Standing & Glazer (1992) found that their sample of 66 low-income women attending a women's health clinic generally had a positive attitude to menopause. This study also found that women in lower income groups tended to have a more positive attitude to menopause. The authors proposed a number of explanations for this finding. Firstly, the low income, predominantly black, sample may have more frequent social interactions and more emotional support than the higher income, predominantly white groups. Secondly, the discomforts of menopause are less significant than meeting other needs for these women, such as providing food and shelter. Also, that removing the stress of unwanted pregnancies may be more important in this group. Interestingly, Theisen et al. (1995) found that family income and attitude to menopause were positively correlated. This may have resulted from the restricted variability of a highly educated and high income sample. It may reflect a comparison between very high income women who experience menopause positively, as it provides new opportunities, and middle income

women who see menopause as a more difficult time. It is likely that the relationship between income and attitudes to menopause is not linear.

Theisen et al. (1995) found a positive relationship between 287 mid-life women's attitudes to menopause and their ratings of their own physical health, indicating that women with better physical health felt more positive about menopause than women with health problems. Also, women with higher ratings of emotional health had more positive attitudes to menopause than women reporting lower emotional health. The rating of emotional health was the single greatest predictor of women's attitude towards menopause. The number of menopausal changes that women were experiencing was related to attitudes to menopause, indicating that experiencing more life changes was associated with poorer attitudes to menopause. Menopausal changes were the next best predictor of attitudes to menopause. This study illustrates the important role of emotional health and contextual factors in predicting women's attitudes towards menopause at mid-life.

The paradigm in which menopause was viewed was an important predictor of attitudes to menopause in Gannon and Eskstrom's (1993) study. A paradigm is a "theoretical model that reflects current social, cultural, and scientific structures and serves to integrate beliefs, values, and attitudes with observation and interpretation" (Gannon & Eskstrom, 1993, p.276). The medical paradigm views menopause as a set of symptoms indicative of a disease process. This approach advocates that menopause can be controlled by hormonal treatment. The transition paradigm views menopause as a life transition similar to puberty, and suggests that although this time may be associated with changes, these do not indicate a clinical disorder. The aging paradigm refers to changes associated with aging in general, for example grey hair and retirement, rather than specifically menopausal changes. Gannon and Eskstrom (1993) found that the medical paradigm consistently yielded more negative attitudes to menopause than the transition and aging paradigms. Logothetis (1991) found that women were more likely to choose HRT if they viewed menopause as a medical condition than if they viewed menopause as a life event. Attitude to menopause appears to influence important aspects of a woman's menopausal

experience (Gannon & Eskstrom, 1993). These studies indicate that promoting menopause as a difficult and disruptive time may negatively influence how women experience the menopausal years. How women experience menopause is likely to influence their choices in regard to HRT use.

Attitude To HRT

A variety of factors are likely to contribute to mid-life women's attitudes to HRT. Abernethy (1994) presents a list of those HRT concerns perceived to be relevant to mid-aged women. The list includes fear of cancer, weight gain, bleeding, and fear that HRT will bring the return of fertility. These messages surrounding HRT, combined with the glowing reports presented in the media may create a confusing range of attitudes to HRT in mid-life women.

Attitude to HRT can be measured by intention to use HRT in the future. Hunter and Liao (1994) found that 42% of their sample expressed an intention to use HRT in the future while 45% did not intent to use HRT. Barlow et al.'s (1989) study found that 36% of never users aged 50-59 believed that they would consider HRT in the future (compared with 6% aged 60-69 and 9% aged 70-80). This indicates that the importance of HRT use decisions in women's lives decline as they age.

Padonu et al. (1996) found that 55 African-American mid-life women expressed both positive and negative perceptions of HRT. HRT was valued for relief of menopausal symptoms, but many more negative perceptions were expressed. The main concern about HRT was fear of cancer. The women made statements like: "well I heard it makes you feel better and that it can calm you down .but I refuse to take it" and "I just always have that fear of getting cancer" (Padonu et al, 1996, p.248-9). Other concerns about HRT included return of periods, side effects and lifetime use of medication.

Wagner et al. (1995) found that 116 college-aged and 136 mid-aged women's attitudes to HRT were only slightly positive, although mid-aged women tended to view HRT more positively than college-aged women. Women felt that HRT

maintains health and improves mood, and decreases the risk of osteoporosis and alleviates hot flushes.

Griffiths (1995b) asked women to state the health problem they were most worried would affect them as they aged. The most common health problem listed was cancer at 30%, followed by dementia and arthritis. Heart disease was fourth on the list but only represented 9% of the sample. As HRT can provide no assistance for any of the first three health concerns, and may well increase women's risk of cancer, the most important health concern of women, the authors concluded that: "taken in the context of all health concerns for women, the promotion of hormone replacement therapy for prevention appears relatively unimportant to women" (Griffiths, 1995b, p.58).

Information levels on HRT have been shown to be important in understanding attitudes to HRT. Hunskaar and Backe (1992) report that high levels of information about HRT are associated with positive attitudes towards HRT. More specifically, women in their study who were informed by a doctor were more positive, whereas those who reported 'other unspecified' sources of information were significantly more negative towards HRT. This finding may be explained by Swiers' (1996) study that indicated that the side effects of HRT are not consistently considered during HRT consultations. Therefore, women informed by doctors and presented only with the benefits of HRT may report a more positive attitude to HRT than those whose information includes other, less positive sources of information. This difference highlights the inter-relationship between the knowledge of HRT, information sources and attitudes to HRT.

Shelley et al. (1995) used a seven item scale of attitudes to menopause to examine whether these attitudes predict HRT use. The results of this study of 1897 mid-aged Australian women indicate that only two of these items were associated with current use of HRT. Women who believed that menopause causes women to change in important ways, and women who believed those women with many interests hardly notice menopause were less likely to be using HRT. France et al. (1996), using a different, eight item, measure of attitudes to menopause and HRT found differences between current HRT users

and those who had never used HRT on six of the eight items. Current users were more likely to agree that women with distressing symptoms should be using HRT, that women can not control menopausal symptoms without the use of HRT, and that HRT is necessary for most women over the age of 50. Never users were more likely to agree that the risks of HRT outweigh the benefits. The relationship between attitudes to HRT and HRT use needs to be clarified.

Summary

The review of the literature has raised a variety of questions related to mid-life women's knowledge of and attitudes to HRT use and menopause, and their information sources at this time. In response to these issues, an exploratory study will be undertaken to address these questions. The specific questions relating to each of the areas related to HRT use are presented below.

HRT Use

1 What is the level of HRT use by New Zealand women?
2 Why is HRT use initiated and terminated by mid-aged women?
3 What is the relationship between HRT use and self reported health, health care utilisation and level of symptom experience?

Knowledge of HRT

4 What is the extent of women's knowledge of the risks, benefits and alternatives to HRT, taking into account their menopausal status, HRT use, age, and education?

Information Sources

5 What are the sources of women's information about HRT according to their use of HRT?
6 What is the relationship between the sources of information and women's satisfaction with this information?

Attitude to Menopause

7 What are mid-aged women's attitudes to menopause?

8 What are their attitudes to menopause, taking into account HRT use, menopausal status, age, education, and health variables?

Attitude to HRT

9 What are the attitudes towards HRT use in New Zealand women taking into account attitudes to menopause, menopausal status, age, and HRT?

10 How do self-reported health, health care utilisation, and level of symptom reporting influence these attitudes?

11 How does attitude to HRT influence HRT use?

This information will be used to compare New Zealand women to other groups from whom similar data has been collected.

METHOD

Participants

The sample for this study was obtained from the electoral roll of women aged between 45 and 60 years. As the mean age at menopause is 50 years (Greene, 1984), this age group was chosen to include women for whom HRT and menopause are relevant issues. The sample was stratified by age, with an equal number of women selected from each of these ages. Those women listed on the general and Maori roll for the North Island of New Zealand were available to be sampled. Since all New Zealanders must register to vote, the electoral roll was chosen to provide a representative sample of North Island women. However, as the electoral roll does not contain information concerning gender, a sample of 1005 was selected from all people on the roll who listed one of the following titles: Ms, Miss, Mrs., Sister, Madam. A total of 62,449 women in this age group listed one of these titles, providing a large community pool from which this sample was selected. Providing titles is a recent addition to the electoral roll information, only becoming part of the electoral roll after 1993. Those women who listed a title must have newly enrolled or made some change to their electoral roll information after this date. Possible changes include a change of address or a change of occupation. Women of this age group would only be enrolling for the first time if they were new to New Zealand. These factors make this sample a more mobile group than a sample representative of this age group. All women in this age group were eligible to participate as no selection criteria concerning HRT use or menopausal status was required.

One thousand and five questionnaires were sent out. Of these, 32 (3.2%) were returned undelivered, and one was returned uncompleted. Two phone calls and three letters advised that questionnaires could not be completed because of language difficulties. The number of women new to New Zealand in this sample may explain these. One phone call and two letters indicated that women did not consider themselves eligible to participate because of chronic illness. Four hundred and ninety-five questionnaires were returned completed from 973 women contacted, providing a return rate of 51%.

Although the age range for this sample was 45 to 60 years, four women outside this age range returned questionnaires. Three women were aged between 40 and 44 years and one woman was aged 62 years. Two reasons could account for this age discrepancy. The age information for these women could have been recorded incorrectly on the electoral roll or the questionnaire, or those women who responded may not have been the women to whom the questionnaire was originally sent. The remainder of the sample was evenly spread throughout the age range. The majority of women in this sample were working outside the home (66.2%). Of these women, twice as many were in full-time employment as part-time employment. Twice as many women were in the top three occupational categories (59.8%) as in the remaining three categories (29.6%). Very few women had completed only primary education (1.0%). The remainder of the sample were evenly distributed between no secondary qualifications (31.7%), some secondary qualifications (35.2%), and tertiary qualifications (29.9%). Over 70% of the sample were married or living as married. Eighty-three percent of women in this sample were of NZ European descent.

This sample is slightly more educated than women of this age are generally, as it includes more women with some secondary qualifications. Information from the 1996 Census states that 40.3% of women in this age group have no school qualifications, 24.7% have secondary qualifications, and 30.7% have post-secondary qualifications (Statistics NZ, 1998). This sample closely resembles the general population of mid-aged women on employment status, marital status, and ethnic group affiliation as reported in the 1996 Census.

Questionnaire

A questionnaire was developed based on previous studies and a pilot study of 24 women. The results of this pilot study are presented in Appendix A. The questionnaire was reviewed with regard to respondent's comments on this pilot study and by examining questions that had elicited a low response rate. The

questionnaire used in this present study is reproduced in Appendix B. The following measures were included in this questionnaire.

Demographic Information

Questions enquired about each woman's age, employment situation, occupation, educational attainment, marital status, and ethnic group affiliation. Occupation was coded into six categories using Irving and Elley's (1978) *Index for the Female Labour Force in New Zealand*.

General Health

A measure of perceived health adapted from Wolinsky and Johnson (1992) was included which asked participants to rate their health over the previous 12 months on a five-point scale. This measure has been found to be a significant predictor of mortality in older adults (Wolinsky & Johnson, 1992). Two measures of healthcare utilisation were included. The first asked when the woman had last seen a doctor. The six choices for this measure were combined to provide three categories of most recent doctors visit: last three months, three months to six months, and more than six months. The second healthcare utilisation question asked how many times a doctor had been visited in the previous 12 months. Questions also included menopausal status (classified by whether the woman had a period in previous 12 months and whether she felt she had been through menopause) and gynaecological surgery history. Women were provided with a list of 15 physical symptoms and 11 psychological symptoms and asked whether they had ever experienced each symptom and if they considered this symptom to be caused by menopause. This measure was based on a similar measure of four physical and eight psychological symptoms used in a telephone survey by France et al. (1996). The list of 26 symptoms was compiled from France et al.'s (1996) study, pharmaceutical brochures, and menopause information pamphlets. These pamphlets are readily available sources of information on menopausal symptoms for mid-aged women.

Hormone Replacement Therapy

Questions were asked about current use of HRT, past use of HRT, how long the women had used HRT, and how long they intended to continue HRT use. Current users' experience of HRT was evaluated using a multiple-choice question from Roberts (1991). Both past and current users were asked their main reasons for starting HRT use. These questions were in open response format and responses were coded into nine categories by the researcher. Past users of HRT were asked why they had ceased HRT use and the responses were coded into eight categories. Coding categories for all open response questions were based on responses from the participants. The categories for these items are shown in Table 1.

Knowledge of HRT

Respondents were asked whether they had heard of HRT, and to list the names of any hormones used in HRT. Respondents were also asked if they knew of any reasons for HRT use, disadvantages of HRT use, and alternatives to HRT use. These questions were coded according to the codes shown in Table 1.

Respondents were also asked which one reason would be likely to persuade them to use HRT and which one disadvantage would persuade them not to use HRT. These were coded using the same codes as used for reasons for and disadvantages of HRT. One code was substituted in the one reason for HRT use question. There was no sex drive category for this question, but there was a ' no reason would persuade me to use HRT' category.

Table 1

Coding Categories for Open Response Questions

Reasons for HRT use	*Reasons for ceasing HRT use*
Vascular symptom relief	Physical side effects
Urogenital symptom relief	Menstrual symptoms/return of periods
Menstrual symptom relief	Reluctance to interfere with nature
Physical symptom relief	Symptoms ceased
Emotional stability	HRT not effective
Physical benefits	Weight gain
Prevention of disease	Emotional side effects
Increase sex drive	Other
Other	

Disadvantages of HRT use	*Alternatives to HRT use*
Cancer	Natural remedies
Breast cancer	Diet
Weight gain	Exercise
Menstrual symptoms/return of periods	Positive approach
Physical side effects	Other
Disease risk	
Emotional side effects	
Other	

Information Sources

Respondents were asked their main sources of information on HRT and given ten sources to choose from. These sources were adapted from Hunter and Liao (1994). They were also asked if they felt they had sufficient information on menopause and whether women in general had sufficient information on menopause. These two questions were adapted from France et al. (1996).

Attitude to Menopause

Attitude to Menopause was assessed using a twelve-item scale. Ten of the Attitude to Menopause statements came from Liao and Hunter (1995) with an additional two used by both France et al. (1996) and Sinclair et al. (1993). Responses to these statements were made using a five-point Likert scale. Liao and Hunter (1995) used the five-point Likert scale; however, France et al. (1996) favoured a four-point scale. Pilot testing of the four-point scale revealed a large amount of missing data and tampering with the scale by respondents to achieve a neutral response and on this basis the five-point scale was chosen. Liao and Hunter (1995) report the internal consistency of their ten item measure as assessed by Cronbach's alpha as .71 (n=30) and test-retest reliability over a one month interval as .84 (p< .001). The alpha of these same ten items in the present study was .55 (n=427). France et al. (1996) did not report reliability information from their sample.

Scores on six items were reversed and the score from all 12 items totalled to make a high score on the Attitude to Menopause scale indicate a positive attitude to menopause. The range of possible scores for this scale was 12-60. The range for this present sample was 25-56 with a mean score of 43.2. The coefficient alpha of the Attitude to Menopause scale was .60.

Attitude to HRT

Intention to use HRT in the future was assessed by a multiple-choice question based on a question by Hunter and Liao (1994). Attitude to HRT was assessed using a six-item scale. Five of the items on the Attitude to HRT scale came from France et al. (1996), and a sixth "HRT improves the quality of life for women following menopause" was added.

The second item in the Attitude to HRT scale "Risks of taking HRT outweigh the benefits" was not highly correlated with other items in the scale and did not associate with the other items when factor analysed. Removing this item from the Attitude to HRT scale increased the reliability of this measure. The

coefficient alpha increased from .65 to .75. This item was considered not part of the same scale as the other items and was removed from further analysis. The scores of four of the remaining five items were reversed to make a high score indicative of a positive attitude to HRT and scores from all items totalled. The range of possible scores for this scale was 5-25. The range for this present sample was 5-24 and the mean score was 13.6.

Procedure

Approval for this study was gained from Massey University Human Ethics Committee. A covering letter (reproduced in Appendix C) and questionnaire were sent to each woman selected from the electoral roll. Women indicated consent to participate by returning the completed questionnaire in a pre-paid envelope. The original invitation yielded 319 replies. Three weeks following the initial posting a letter was sent to all women, thanking those who had returned their completed questionnaires and once more inviting those who had not done so to participate (shown in Appendix D). A form for women to request a summary of the results of this study was also sent out (shown in Appendix E). The same letter was sent to all women as no record of returned questionnaires was kept to protect participants' anonymity. Following this second posting a further 176 replies were received.

Statistical Analyses

Chi square analyses were performed to detect differences between groups for categorical data. Analyses of variance were used to determine differences between groups for interval data. A factor analysis of the Attitude to Menopause scale was conducted to identify underlying factors of this scale. Discriminant analysis of both attitude scales and six health variables was conducted to identify variables important in predicting HRT use.

RESULTS

HRT Use

1 What is the level of HRT use by New Zealand women?

The final sample of 495 women consisted of 124 (25.1%) women who were currently using HRT (Current Users), 70 (14.1%) who had used HRT in the past (Past Users), and 272 (54.9%) who had never used HRT (Never Users). The remaining 29 (5.9%) did not indicate HRT use status. Seventy-five percent of the sample stated that they had reached menopause. Of these women, 29.4% were Current Users and a further 18.3% were Past Users. In addition, 10 premenopausal women indicated they were Past or Current Users of HRT. As HRT use decisions are generally only relevant for postmenopausal women, analyses involving HRT use have been restricted to women who are past menopause. This reduces the confusion created by including women for whom HRT use decisions are not pertinent. Postmenopausal women are those who have categorised themselves as having reached or been through menopause. There were some differences between the two measures of menopausal status: period in the previous 12 months and self-reported menopausal status. More women in this sample believed they had reached menopause (74.9%) than had been without a period for 12 months (60.0%). Of these two measures, self-reported menopausal status was chosen to reflect decision making on HRT.

The chi square calculated showed significant age differences between postmenopausal Never, Past, and Current Users (χ^2 (4) = 24.08, p< .001). The percentages from these groups indicate that Never Users are younger than Past or Current Users. Ethnic group information was combined into three groups (NZ European, Maori, and Other) to reach minimum numbers for chi square analysis. There were significant differences between groups on ethnic group affiliation (χ^2 (4) = 10.33, p< .05). Never Users contained a higher percentage of women identifying as an "Other" ethnic group than Past or Current Users. There was no significant difference between HRT use groups on any other demographic variable.

Length of HRT use

Sixteen percent of Current Users had used HRT for less than 12 months, 19.2% for 12 months to two years, 36% for two to five years and 28.8% for more than five years. The majority of Current Users expected to continue HRT for more than five years (51.4%). Thirty percent expected to continue for two to five years and 13.5% for 12 months to two years. Only 5.4% expected to use HRT for less than 12 months.

Past Users tended to have used HRT for a much shorter time than Current Users. The majority of Past Users had used HRT for less than 12 months (59.1%). Fifteen percent had used HRT for 12 months to two years and another 15.2% for two to five years. Only 10.6% of Past Users had used HRT for more than five years.

2 Why is HRT use initiated and terminated by mid-aged women?

Past and Current Users gave a variety of reasons for initiating HRT use. Table 2 shows that relief of vascular symptoms (hot flushes and night sweats) was the most common reason for initiating HRT use for both Current and Past Users. An improvement in emotional stability was also an important reason for HRT use, and was reported by one-third of Current Users and almost one-quarter of Past Users of HRT (see Table 2).

Ninety-six percent of Past Users provided reasons for ceasing HRT use. The most commonly reported reason was physical side effects of HRT, reported by 30.4% of Past Users. Twenty-eight percent ceased HRT use because they felt it interfered with the natural functioning of their body, and 20.0% because of periods returning. Finding HRT ineffective was reported by 14.5%, emotional side effects of HRT by 13.0% and weight gain by 11.6%. Only 7.2% stated that they ceased HRT because symptoms had ceased.

Table 2

Number (%) of Women Providing Reasons for Their HRT Use by HRT Use Status

	HRT use status	
	Current	Past
Reasons	*n* (%)	*n* (%)
Vascular symptoms	58 (48.7)	25 (37.3)
Emotional stability	41 (33.6)	15 (22.4)
Physical symptoms	25 (21.0)	15 (22.4)
Urogenital symptoms	20 (16.8)	3 (4.8)
Menstrual symptoms	19 (16.0)	9 (13.4)
Prevention of disease	15 (12.6)	14 (20.9)
Increase sex drive	6 (5.0)	3 (4.5)
Physical benefits	6 (5.0)	2 (3.0)
Other	31 (26.1)	20 (29.9)

3 What is the relationship between HRT use and self reported health, health care utilisation, and level of symptom experience?

Categories were collapsed for general health (good, average and poor), last visit to doctor (last three months, three to six months, more than six months) and operations (hysterectomy and/or both ovaries removed, no operation) to reach the required minimum per cell count for chi square analysis. There were significant differences in these variables by HRT use. Table 3 shows that a higher percentage of Never Users reported their health as good than Past or Current Users of HRT. A higher percentage of Current Users have been to the doctor in the last three months than Never Users. The percentage of Current Users who had an hysterectomy and/or both ovaries removed was more than twice that of Never Users of HRT.

Table 3

Number (%) and Chi Square Values for Health Characteristics by HRT Use Status

	HRT use status			
	Current	Past	Never	
Health characteristics	*n* (%)	*n* (%)	*n* (%)	χ^2
General health				
Good	73 (67.0)	37 (54.4)	134 (76.1)	
Average	32 (29.4)	23 (33.8)	29 (16.5)	
Poor	4 (3.7)	8 (11.8)	13 (7.4)	15.63**
Last visit to doctor				
Last three months	75 (69.4)	40 (59.7)	101 (57.1)	
Three months to six months	23 (21.3)	14 (20.9)	28 (15.8)	
More than six months	10 (9.3)	13 (19.4)	48 (27.1)	13.70**
Hysterectomy status				
Hysterectomy and/or both ovaries removed	48 (44.0)	23 (33.8)	37 (20.8)	
No operation	61 (56.0)	45 (66.2)	141 (79.2)	17.72***

**$p < .01$

***$p < .001$

A one-way analysis of variance was conducted to investigate the relationship between HRT use and the number of physical and psychological symptoms ever experienced and the number of physical and psychological symptoms attributed to menopause. The ANOVAs were highly significant (see Table 4). Post hoc tests were conducted to evaluate pairwise differences among the means. As Levene's test for equality of error variance was not significant, post

hoc tests using Tukey's HSD test assuming homogeneity of variances were used. The results of these tests showed that both the number of physical symptoms experienced and the number of psychological symptoms experienced were significantly lower for Never Users than for Current Users of HRT. Never Users also attributed fewer physical and psychological symptoms to menopause than Current Users of HRT. However, the relationship between HRT use and attributing symptoms to menopause was a result of Current Users reporting more physical and psychological symptoms than Never Users. As symptoms can only be attributed to menopause if they are experienced, the relationship between these variables should be controlled. Comparing the percentage of Current, Past, and Never Users who experienced each symptom and the number who attributed these symptoms to menopause determined whether group membership was associated with attributing symptoms to menopause. When the relationship between experiencing symptoms and attributing them to menopause was controlled, Current Users and Past Users were no more likely to attribute their symptoms to menopause than Never Users.

A one-way analysis of variance was conducted to evaluate the relationship between HRT use and number of visits to the doctor in the previous 12 months. The ANOVA was significant (see Table 4). Tukey's HSD post hoc test showed that Never Users of HRT had significantly fewer doctors' visits than Past or Current Users of HRT. An outlier with a score of 104 was found in the number of visits to the doctor in the previous 12 months. Replacing the score with a number one greater than the next most extreme score (24) (as suggested in Tabachnick & Fidell, 1989) reduced the influence of this outlier on the mean for this variable. This outlying score belonged to a Past User of HRT who described her health as very poor. The reduction of this score highlights that these results are not applicable to mid-life women with severe illnesses.

Table 4

Means (M), Standard Deviations (SD), and F Values for Number of Symptoms Experienced, Number of Symptoms Attributed to Menopause, and Healthcare Utilisation by HRT Use Status

	HRT use status				
	Current	Past	Never	*n*	*F*
Measure	M (*SD*)	M (*SD*)	M (*SD*)		
Physical symptoms experienced	6.83 (2.92)	7.22 (3.13)	5.43 (3.02)	355	12.14***
Psychological symptoms experienced	4.98 (3.02)	4.22 (3.15)	3.31 (3.04)	355	10.29***
Attributed physical symptoms to menopause	4.27 (2.50)	4.15 (2.62)	3.24 (2.56)	355	6.63***
Attributed psychological symptoms to menopause	3.17 (3.07)	2.19 (2.56)	1.67 (2.42)	355	10.71***
Number of visits to doctor	4.65 (3.46)	4.37 (3.96)	2.95 (2.76)	338	10.42***

***$p < .001$

Knowledge of HRT

4 What is the extent of women's knowledge of the risks, benefits and alternatives to HRT, taking into account their menopausal status, HRT use, age, and education?

Never Users were asked whether they had heard of HRT before receiving the questionnaire. Of those who responded (n= 358), 90.6% had heard of HRT and 9.4% had not. Those women who had not heard of HRT did not differ from other Never Users in age or menopausal status. Women who had not heard of HRT tended to have lower educational attainment than those who had heard of HRT. Sixty-five percent of these women had no secondary qualifications compared to 30.9% of Never Users generally, and only 4.3% had a tertiary qualification compared to 33.1% of all Never Users. Those women who had not heard of HRT also tended to belong to an ethnic minority group. Twenty-five percent of these women identified as Maori compared to 6.4% of all Never Users, and 37.5% identified as an "Other" ethnic group compared to 12.0% of the total sample of Never Users of HRT.

Half of the entire sample could not name any hormones that are used in HRT (54.5%). Of those who did name hormones used in HRT, 97.3% named oestrogen, 51.1% named progestogen and 3.6% named testosterone.

All women were asked if they knew of any reasons why HRT is used. The most common reason given for HRT use was for relief of vascular symptoms. This was closely followed by prevention of disease and improving emotional stability (see Table 5). Although prevention of disease was widely reported as a reason for HRT use, Current and Past Users less commonly reported that it was a main reason for their own HRT use (12.6% and 20.9% respectively) (see Table 2).

All respondents were also asked which one reason would be most likely to persuade them to use HRT. Of those who responded (n= 266), 23.3% stated that prevention of disease would persuade them to use HRT and 19.5% that vascular problems would persuade them (see Table 5). A further 22.9% stated that no reason would persuade them to use HRT.

Table 5

Reasons for HRT Use and the One Reason That Would Persuade Women to Use HRT

Reasons	Total sample *n* (%)	One reason *n* (%)
Vascular symptoms	170 (50.7)	52 (19.5)
Prevention of disease	155 (46.3)	63 (23.3)
Emotional stability	143 (42.7)	28 (10.5)
Physical symptoms	84 (25.1)	20 (7.5)
Physical benefits	80 (23.9)	23 (8.6)
Urogenital symptoms	71 (21.2)	7 (2.6)
Menstrual symptoms	44 (13.1)	10 (3.8)
Increase sex drive	33 (9.9)	*
Other	31 (9.3)	3 (1.1)
No reason	*	61 (22.9)

*** Not applicable**

Seventy-seven percent of Current Users and 86.1% of Past Users had heard of disadvantages of HRT. Only 59.6% of Never Users had heard of disadvantages of HRT. Breast cancer was the most commonly known disadvantage of HRT in all HRT use groups (see Table 6). Weight gain was the next most commonly known disadvantage of HRT use by Current and Past Users of HRT, followed by physical side effects. A much higher percentage of Past Users (22.4%) mentioned return of periods as a disadvantage of HRT than Current Users (6.3%).

Table 6

Disadvantages of HRT Use and the One Disadvantage That Would Dissuade Women from HRT Use

Disadvantages	Total sample *n* (%)	One disadvantage *n* (%)
Breast cancer	160 (50.3)	78 (35.9)
Cancer	111 (34.9)	55 (25.3)
Weight gain	76 (23.9)	24 (11.1)
Physical side effects	75 (23.6)	20 (9.2)
Disease risk	45 (14.2)	11 (5.1)
Return of periods	44 (13.8)	12 (5.5)
Emotional side effects	15 (4.7)	1 (0.5)
Other	61 (19.2)	16 (7.4)

Respondents were also asked what one disadvantage of HRT would be most likely to persuade them not to use HRT. Breast cancer was mentioned most commonly by all HRT use groups, followed by cancer generally (see Table 6). Physical side effects were mentioned by 21.4% of Past Users, which was considerably higher than Never (7.2%) or Current Users (1.8%). Weight gain was also mentioned as the one disadvantage that would persuade women not to use HRT by 11.1% of respondents (see Table 6).

Fifty-one percent of the total sample listed alternatives to HRT. Natural remedies were the most commonly reported alternative to HRT in all HRT use groups, followed by diet changes (see Table 7). Almost twelve percent of women also mentioned exercise as an alternative to HRT. Fourteen percent of Never Users also stated that a positive approach to menopause was an alternative to HRT.

Table 7

Number (%) of Women Who Suggested Alternatives to HRT Use

Alternatives	Total sample *n* (%)
Natural remedies	220 (87.0)
Diet	87 (34.4)
Exercise	30 (11.9)
Positive approach	24 (9.5)
Other	25 (9.9)

Information Sources

5 What are the sources of women's information about HRT according to their use of HRT?

Doctors were the main source of information on HRT for both Past and Current Users of HRT. Never Users were more likely to report that friends and relatives were their main source of information on HRT (see Table 8). Both magazines and books were a common source of information on HRT for all HRT use groups.

6 What is the relationship between the sources of information and women's satisfaction with this information?

Fifty-eight percent of this sample stated that they had sufficient information on menopause. A smaller percentage (40%) believed that women in general have sufficient information on menopause.

Table 8

Percent Reporting HRT Information Sources by HRT Use

	HRT use status		
	Current	Past	Never
Information sources	*n*=124	*n*=70	*n*=270
Doctor	88.7	72.9	31.5
Magazines	42.7	52.9	45.6
Books	37.1	50.0	30.7
Friends or relatives	32.2	41.4	51.5
Health providers	29.0	21.4	23.0
Media	22.6	34.3	38.5
Other	6.5	1.4	3.7

A score on information sources was calculated by summing the number of information sources each participant reported. An independent samples t-test was conducted to evaluate whether women who reported sufficient information on menopause would also have reported a greater number of information sources on HRT. The test was significant ($t(467) = 4.37$, $p<.001$), although the mean difference was not large. Women with sufficient information on menopause reported a mean number of 2.66 information sources whereas those who reported insufficient information had a mean number of 2.01 information sources. The sources of this information may be more important than the number of these sources.

The importance of different information sources was investigated by comparing sources of information with satisfaction with information. More women who reported receiving information from their doctor stated that they had sufficient information (71.7%) than those who did not receive information from this source (45.0%). This is not true of women who received information from friends or relatives. Women who received information from friends or relatives were no

more likely to report that they have sufficient information than those who did not receive information from this source.

Attitude to Menopause

7 What are mid-aged women's attitudes to menopause?

Generally, women in this sample had positive Attitude to Menopause scores. The mean score for the total sample was 43.2, and 90.3% of women had Attitude to Menopause scores at or above the neutral score of 36. The majority of women disagreed with the statement that menopause is a deficiency disease which requires medical treatment. Twenty percent of women disagreed with this statement and a further 45.5% strongly disagreed. Three quarters of this sample agreed or strongly agreed that menopause can mark the beginning of a new and fulfilling stage of a woman's life.

Components of Attitude to Menopause

A principal components factor analysis was performed on the Attitude to Menopause scale to examine any underlying factors in the scale. Principal component analysis was chosen as an empirical summary of the data was required rather than a solution based upon theoretical requirements. An examination of the correlation matrix showed many significant correlations. The Kaiser-Meyer-Olkin measure of sampling adequacy showed a strong multivariate structure (.71). Examination of the scree plot indicated that three factors were present; as these all had eigenvalues greater than one, these three were retained. These three factors explained 46.9% of the total variance. All factors were subject to a varimax rotation to clarify factor structure. As the factors were not highly correlated, an orthogonal rotation was used. Table 9 shows the loadings of variables on factors, communalities, and the percent of variance explained. A cut off of .45 was used for inclusion of an item in the interpretation of a factor (Tabachnick & Fidell, 1989). Using this criteria, each item loaded on only one factor. Factor one (Negative) relates to the negative aspects of menopause, such as the need for medical treatment and a decline in

Table 9

Factors Loadings, Communalities and Percent of Variance for Principal Component Extraction and Varimax Rotation of Attitude to Menopause Scale

Item	Factors 1	2	3	h^2
Negative				
A woman feels like less of a woman after the menopause.	**.75**	.15	-.07	.59
Menopause is an unpleasant reminder of aging and death.	**.70**	.07	-.05	.50
Physical attractiveness declines noticeably after menopause.	**.62**	-.08	.04	.39
Menopause is a deficiency disease, which requires medical treatment in most cases.	**.59**	-.05	.24	.41
Menopause brings problems with physical health.	**.57**	-.11	.41	.50
Positive				
It is good to be free from menstrual periods after menopause.•	-.02	**.71**	-.18	.53
It is a relief to be free from the risk of pregnancy after menopause.•	-.19	**.69**	.09	.51
Menopause can mark the beginning of a new and fulfilling stage of a woman's life.•	.41	**.59**	.01	.52
Enjoyment of sexual activities increases after menopause.•	.02	**.48**	.06	.23

Item	Factors 1	2	3	h^2
Normal				
Menopause is a part of normal life, which most women can deal with themselves.•	.13	.09	**.73**	.56
Women who have trouble with menopause are those who expect it.•	-.13	.04	**.68**	.49
Hormonal changes at menopause cause depression or irritability.	.36	-.18	**.48**	.40
				Total
Percent of variance explained	20.69	13.59	12.60	46.88

• Reverse coded items

physical attractiveness. Factor two (Positive) relates to the freedom and excitement that the menopausal stage brings. Factor three (Normal) emphasises the normality of the menopausal experience. The reliability of each of these factors was not high, limiting the interpretation of these factors. The Cronbach's alpha for the Negative factor was .69, for the Positive factor was .50, and for the Normal factor was .39.

The communalities (shown in Table 9) indicate the percent of variance in each item that the three factors account for. The communality values tended to be low. This indicates that the three factors do not account for much of the variance in the Attitude to Menopause items.

8 What are the attitudes to menopause, taking into account HRT use, menopausal status, age, education, and health variables?

A one-way ANOVA was conducted to investigate the relationship between HRT use and Attitude to Menopause. Table 10 shows that this ANOVA was significant. Tukey's HSD post hoc tests showed that Current Users of HRT had

significantly lower Attitude to Menopause scores than Never Users. There were no significant differences between Past and Never Users' Attitude to Menopause scores. Although Past Users of HRT were more similar to Current Users of HRT in self-reported health and symptoms, their attitudes to HRT and menopause more closely resembled Never Users of HRT. There was no significant difference between premenopausal and postmenopausal women's scores on the Attitude to Menopause scale.

A chi square analysis was conducted to evaluate whether Current, Past and Never Users of HRT differed in their responses to individual Attitude to Menopause statements. HRT use and attitude responses were found to be significantly related for a number of Attitude to Menopause items. In particular, a greater percentage of Current Users agreed that menopause is a deficiency disease requiring medical treatment than Past or Never Users (χ^2 (8) = 42.36, $p < .001$). A greater percentage of Never Users agreed that menopause is a part of normal life, which most women can deal with themselves, than Current Users (χ^2 (8) = 47.86, $p < .001$).

There were no significant differences in Attitude to Menopause across demographic variables, but there were significant differences in Attitude to Menopause by health variables. Attitude to Menopause was negatively correlated with the experience of physical symptoms ($r(425) = -.23$, $p < .001$) and psychological symptoms ($r(425) = -.30$, $p < .001$). This indicates that experiencing a high number of symptoms is associated with a negative Attitude to Menopause. Attitude to Menopause was also negatively correlated with self-reported health ($r(423) = -.22$, $p < .01$) indicating that reporting poorer health is associated with a more negative Attitude to Menopause score. Attitude to Menopause was negatively correlated with the number of visits to the doctor in the previous twelve months ($r(425) = -.13$, $p < .01$), indicating that women who visit the doctor more often have a more negative Attitude to Menopause score.

Table 10

Means (M), Standard Deviations (SD) and F Values for Attitude Measures According to HRT Use Status

	HRT use status				
	Current	Past	Never	*n*	*F*
Measure	M (*SD*)	M (*SD*)	M (*SD*)		
Attitude to Menopause	40.63 (5.32)	43.42 (6.00)	44.67 (5.37)	319	16.62***
Attitude to HRT	16.48 (3.23)	13.02 (3.86)	12.34 (3.00)	322	52.17***

***$p < .001$

Attitude to HRT

9 What are the attitudes to HRT use in New Zealand women taking into account attitudes to menopause, menopausal status, age, and HRT use?

Past and Never Users of HRT were asked to describe their intention to use HRT in the future on a six-point scale. Thirty-five percent of respondents stated that they definitely would not want to use HRT. Thirty percent stated that they would rather not have HRT, but would consider it. Very few women indicated a positive intention to use HRT, with only 5.4% stating that they would like to have HRT but have some concerns, and 2.9% that they definitely will want HRT. Twelve percent of women were undecided and 14.3% stated that they didn't really know what HRT was.

Women in this sample had a range of Attitude to HRT scores. The mean Attitude to HRT score was 13.6, close to the neutral point of the scale of 15. Forty-three percent of women had neutral or positive Attitude to HRT scores

and 56.6% had negative Attitude to HRT scores. In general, the majority of women agreed or strongly agreed that natural approaches are better than HRT. Women in this sample also tended to agree that women with distressing symptoms should take HRT (60.3% agreed or strongly agreed compared to 12.4% who disagreed or strongly disagreed with this statement).

A one-way ANOVA was conducted to investigate the relationship between Attitude to HRT and HRT use. Table 10 shows that this ANOVA was significant. Tukey's HSD post hoc test showed that Current Users of HRT had a significantly higher Attitude to HRT score than Never Users. There was no significant difference between Past and Never Users Attitude to HRT score. When individual items from these scales were considered, there were significant differences in responding by HRT use status. A greater proportion of Never and Past Users agreed that natural approaches are better than HRT than Current Users (χ^2 (8) = 64.03, p< .001). Current Users were more likely to agree that HRT improves the quality of life for women following menopause than Never Users (χ^2 (8) = 92.42, p< .001). There were no significant relationships between menopausal status or age and scores on the Attitude to HRT scale.

There was a significant negative correlation between the Attitude to HRT and Attitude to Menopause scales (r(425)= -.41, p< .001). This indicates that a positive Attitude to HRT use is associated with a negative Attitude to Menopause.

10 How do self-reported health, health care utilisation, and level of symptom reporting influence these attitudes?

Those who have been to the doctor in the previous three months have a significantly more positive attitude to HRT than those whose last visit was more than six months ago (F(2,417)= 5.15, p=.006). There was a significant correlation between the number of visits to the doctor and Attitude to HRT

($r(431) = .18$, $p < .001$), with women who visit the doctor more frequently having a more positive Attitude to HRT.

11 How does attitude to HRT influence HRT use?

A discriminant analysis was conducted to test whether attitudes predict HRT use when controlling for other variables that influence HRT use. For this analysis HRT use was dichtomised into 'ever used HRT' (n= 177) and 'never used HRT' (n= 178). This dichotomy created equal group sizes, increasing the resistance of the solution to violations of normality assumptions. The eight variables included were age, number of visits to the doctor, self-reported health, hysterectomy status, number of physical symptoms experienced, number of psychological symptoms experienced, Attitude to HRT, and Attitude to Menopause. These variables were all significantly related to HRT use in univariate analyses. The overall Wilks' lambda for the discriminant function was significant, $\Lambda = .73$, χ^2 (8, $N = 294$) $= 90.54$, $p < .001$, indicating that overall the predictors differentiated among the two HRT use groups.

Table 11 shows the correlations between the predictors and the discriminant function as well as the standardised coefficients. As the relative magnitude of coefficients is quite different for the correlation coefficients and the standardised coefficients, it is appropriate to interpret both patterns. The correlation coefficients determine the relative importance of each of the variables in predicting HRT use without controlling for the influence of other variables. The correlation coefficients show that Attitude to HRT and Attitude to Menopause are the strongest predictors of ever having used HRT. A high Attitude to HRT score and a low Attitude to Menopause score predicted HRT use. Having experienced symptoms associated with menopause and number of doctor's visits were also good predictors of HRT use. Age and self-reported health were the poorest predictors of HRT use.

The standardised coefficients show the influence of each variable controlling for the influence of all other variables included in the function. The change in pattern of the coefficient values suggests that some interpretations should be

made about the relationships between discriminating variables. When looking at the standardised coefficients, Attitude to HRT is still of primary importance in predicting HRT use. However, Attitude to Menopause has dropped substantially from the second most important predictor of HRT use to one of predictors with a lower coefficient. This indicates that the influence of Attitude to Menopause in predicting HRT use adds little predictive power to the other variables included in the discriminant function. This suggests that Attitude to Menopause does not have a direct effect on HRT use.

Table 11

Standardised Coefficients and Correlation Coefficients of Predictor Variables with the Discriminant Function

Variable	Correlation coefficients	Standardised coefficients
Attitude to HRT	.71	.62
Attitude to Menopause	-.47	-.16
Physical symptoms experienced	.43	.27
Number of visits to doctor	.42	.30
Psychological symptoms experienced	.42	.22
Hysterectomy status	.33	.28
Self-reported health	.27	-.14
Age	.27	.34

This discriminant function correctly classified 73.5% of the individuals in this sample not assuming homogeneity of covariance matrices. As there were equal sample sizes, 50% of the sample would be correctly classified by chance. The kappa was .47. Kappa values vary from –1 to +1; a value of 0 indicates chance level prediction, whilst a value of +1 indicates perfect prediction. Values between 0 and –1 indicate less than chance level prediction. The kappa obtained for this sample indicates moderately accurate prediction.

DISCUSSION

The present study was undertaken to explore attitudes to HRT and menopause, information sources on HRT, and knowledge of HRT in a New Zealand sample of mid-aged women.

HRT Use

Level of HRT Use

The level of HRT use in this sample is higher than a non-random sample of Christchurch women undertaken in 1988 (SROW, 1988). The present study found that 41.8% of women had used HRT at some time compared with 30% of the Christchurch sample. In addition, almost half of all postmenopausal women in this sample had used HRT at some time. The level of HRT use found in this sample is similar to Australian samples, which report between 25-30% current use of HRT in this age group (France et al., 1996). The present sample does seem to contain a large percentage of women who have used HRT at some time. The high number of past users of HRT found may be a result of side effects and negative reports of HRT encouraging women to cease HRT use.

Length of HRT Use

Current users of HRT tended to have used HRT for a considerable length of time compared to those who have used HRT in the past. Thirty-six percent of the present sample of current users has used HRT for two to five years and a further 28.8% for more than five years. This length of HRT use can be compared to the findings of Shelley et al. (1995) who found that 60% of the current users in their sample had used HRT for less than two years, and 34% for less than one year. Differences between these two samples may reflect the difference in age group sampled, as Shelley et al.'s (1995) sample included only women aged 45-55 years, whereas the present sample included women 45-60 years. The difference may also reflect changing attitudes to HRT use to focus

on disease prevention, which requires long term HRT use, rather than short term use for symptom relief.

There is also evidence to suggest that women's reasons for HRT use change over the course of their HRT use. Although current users stated that they initiated HRT use to treat transient symptoms such as hot flushes and emotional instability, their long term use of HRT and intention to continue HRT in the long term (the majority for more than five years) indicates that relief of symptoms is no longer their main reason for HRT use. Menopausal symptoms continue for less than five years in the majority of mid-aged women (Roberts, 1996). Therefore remaining on HRT longer than five years is unnecessary to relieve these symptoms. Future studies could ask women both their initial reasons for HRT use and their current reasons for HRT use. It may be that once symptoms have been alleviated women consider other aspects of HRT use to be more important, such as prevention of disease. The high number of women who considered prevention of disease as a reason for HRT use supports this idea, despite fewer women stating this was a reason for their initial HRT use.

Changing reasons for HRT use without a new consultation is a cause for concern. The Core Services Report (National Advisory Committee, 1994) states that separate decisions should be made about short term and long term HRT use. Short term use should be initiated to relieve troublesome symptoms, and should be continued until ceasing treatment does not cause the return of these symptoms. Long term treatment, however, is not appropriate for all mid-life women. The decision on long term treatment should be made with consideration of each woman's risk factors for long term disease. If women are remaining on HRT for extended periods of time, it is important that they consult with their doctor to ensure that continued HRT use is appropriate for them.

Reasons for HRT Use

A disturbing result of this study is the high number of women who initiated their HRT use for emotional stability reasons. One third of current HRT users and almost one quarter of past users of HRT stated emotional stability as a reason

for their HRT use. The pervasive belief in this unproven benefit of HRT is concerning. The Core Services Report (National Advisory Committee, 1994) states that HRT is not recommended for depression or memory loss, yet it is clear that many women consider these factors when initiating HRT use.

The Core Services Report (National Advisory Committee, 1994) states that HRT use should be continued until ceasing HRT does not cause symptoms to return. However, those who have used HRT in the past seldom cease HRT because symptoms have ceased. They more commonly cease HRT because of side effects of some kind. This, combined with current users intention to continue HRT use for long periods, may indicate that the decision to cease HRT use is as difficult and controversial as the decision to start HRT use. Previous research has tended to focus on the decision to start HRT use and the level of compliance with this treatment. More research on how women make the decision to cease treatment, and the positive and negative aspects of changing health care at this time would be informative. To understand this, it is important that HRT is seen as more than a medication that has certain effects on the biological system. It also has certain social influences. Ceasing HRT use may involve ceasing regular contact with the doctor and pharmacist, and may involve other, unknown, consequences for mid-life women. More research on this would provide insights into the variety of functions that HRT performs in mid-life women's lives.

HRT Use and Health

Postmenopausal women who have never used HRT have better self-reported health than current or past users of HRT. This difference is not explained by the age difference between never and past or current users as there was no significant difference between age and self-reported health. Those who have never used HRT also report fewer doctors visits. Postmenopausal women who have never used HRT indicated that they had experienced fewer of a list of menopause related physical and psychological symptoms than past or current users of HRT. The relationship between HRT use and health variables could be explained in a variety of ways. It may be that women with poorer health take

HRT to relieve their physical symptoms. It is also possible that frequent visits to the doctor for HRT use may bring symptoms associated with menopause to the fore, and these symptoms are then identified as a problem. A longitudinal study would help to clarify the relationship between health variables and HRT use.

Knowledge of HRT

Very few women in this sample had not heard of HRT. Those few who had no knowledge of HRT tended to follow the trends found in previous research of having lower educational attainment and of belonging to minority groups. It is difficult to know whether this lack of information reflects the unavailability of necessary information for these groups or a lower level of symptom experience that makes this information unnecessary, as different ethnic groups vary in level of menopausal symptomatology (Haines et al., 1995).

Knowledge of the hormones used in HRT was low. Half of the present sample could not name any hormones used in HRT. This result is similar to France et al. (1996) who found that 49% of their sample were unable to name any hormones used in HRT. Lack of knowledge of the hormones used in HRT has important consequences for women. The functions, risks and side effects of HRT depend on the interaction of the women's own hormone level (whether hysterectomised or not) with the hormones included in HRT (whether oestrogen only or oestrogen and progestogen). Knowledge of these hormones allows women to make informed choices regarding the functions and risks of HRT.

Benefits of HRT

The role of HRT in preventing diseases such as osteoporosis and heart disease when taken in the long term was well known by women in this sample. This may indicate that women have accepted the move from HRT use primarily for symptom relief to long term use for disease prevention. It would be interesting to follow this up with further research to discover women's perceptions of the decrease in risk that HRT provides for a variety of diseases such as

osteoporosis and heart disease. It seems that a vague notion of a general benefit from taking HRT is insufficient for women to make informed decisions about long term, and often life-time, medication use.

There was widespread belief in the usefulness of HRT in treating emotional instability in this sample. More than 40% of the sample listed this as a reason that women use HRT, despite this benefit of HRT being unsupported by scientific evidence. It would be interesting to see which sources of information provide this view of HRT. Pharmaceutical companies promote this use of HRT, and it is possible that doctors also report that HRT is useful in controlling mood swings.

Disadvantages of HRT

The most commonly reported disadvantage of HRT was cancer, and this was also the one reason that would persuade most women in this sample not to use HRT. This is not surprising as Griffiths (1995b) found that cancer was the health problem of most concern to women as they age. Cancer was reported as the most worrying health problem by 30.2% of women compared to only 8.8% concerned with heart disease and 4.0% concerned by osteoporosis. Sinclair et al. (1993) also reported that concern with cancer was important in women's decision making on HRT. These figures are important to consider when suggesting long term medication for women. Much of the recent research on HRT use has been focussed on extending life span. However, it is important not to lose sight of the inevitability of death and perhaps consider a change in focus from extending life at any cost to considering the particular health concerns that women have. Women may be content to risk an increase in heart disease by abstaining from HRT to avoid an increase in breast cancer. The relative risks of disease must be weighed up against personal risks, side effects and discomforts rather than the need to extend life beyond all else.

Weight gain was mentioned as a disadvantage of HRT by almost one quarter of this sample and 11.1% stated it was the one disadvantage that would persuade them not to use HRT. This seems to indicate that pressure to remain slim

influences women's decision making on HRT. Physical benefits such as improved skin and looking younger were also mentioned as reasons for HRT use by 23.9% of women, and 8.6% stated that these benefits were the one reason that would persuade them to use HRT. This level of knowledge of the general, unscientific benefits of HRT is not surprising considering Griffiths (1995a) finding that statements concerning youthfulness, and increased health and wellbeing were mentioned more in the media than any other aspect of HRT use.

Alternatives to HRT

A number of women in this sample stated that a positive attitude to menopause was an alternative to HRT. This provides an interesting indication of how mid-aged women perceive HRT. These women seem to consider that HRT provides a relief that can be found by accepting menopause as a positive change. This view is quite contrary to the view of HRT as primarily a treatment for menopausal symptoms or to prevent postmenopausal disease. The nature of these different views of HRT could be more fully explored with qualitative research techniques.

Information Sources

Women in this study tended to believe that they have sufficient information on menopause, but were less likely to believe that women in general had sufficient information. Either these women are correct in this assumption, and this present sample has recruited those women who have more information on menopause than the general population of mid-life women, or these women have overstated their own information level relative to others. It seems likely, however, that women who responded to this survey will have a high level of interest and education, and consequently have sought more information on menopause than a representative sample of women.

As more women who receive information from their doctor report having sufficient information, it would seem that this information is considered to have

greater veracity than the information presented by friends and relatives. This may provide women with a distorted view, as previous research suggests that doctors may not include information on side effects when discussing an HRT prescription (Swiers, 1996). This appears to be an important issue for women, as more than half of women in this sample who discontinued HRT use did so because of side effects. Although women may consider that they have sufficient information to decide on HRT use at the time of an initial prescription, subsequent experience with HRT may provide other information, which causes a re-evaluation of this decision. It is important to evaluate the information which doctors routinely provide for women to establish whether it is entirely appropriate for HRT decision making. The best way to do this seems to be with past and current users of HRT, as these women are in a position to evaluate their HRT decision with respect to past knowledge and current experience.

Attitude to Menopause

There were widely varying attitudes to menopause displayed by this sample of mid-life women. All response options were endorsed on all questions, indicating that the experience of menopause is different for individual women. Generally, women disagreed that menopause was a deficiency disease requiring medical treatment and agreed that the menopausal stage can bring new fulfillment for women. These results indicate that mid-life women have not entirely accepted the medicalisation of menopause presented by doctors and the media.

Components of Attitude to Menopause

The Attitude to Menopause scale contained three underlying factors. These factors represented the medical/decay model (Negative), the idea that menopause brings new opportunities (Positive), and the belief that menopause is a normal experience (Normal). It is interesting that a distinction exists between the view of menopause as positive and the view of menopause as normal. This may reflect a difference between the belief that menopause brings changes that are natural and normal, but may be unpleasant and must be

managed, and the belief that menopause can bring new opportunities and excitement for mid-aged women. The view that menopause is normal does not necessarily mean that it is considered a positive time for women.

Previous research has also found three different factors are important in explaining mid-aged women's attitudes to menopause. Groeneveld et al. (1993) found three clusters of attitudes to menopause: the disadvantage cluster, the advantage cluster and the treatment cluster. There are similarities between those groups of menopausal attitudes and the factors found in the present study. The present study also found a factor relating to disadvantages of menopause and another with advantages to menopause. The third cluster, rather than relating menopausal complaints with treatment, focuses on the normality of the menopausal experience. The normality of menopause can be considered the other side of the treatment approach to menopause, and may reflect a similar attitude phrased with different questions.

The difference in factors between the studies may also be a result of Groeneveld et al. (1993) including some HRT and treatment statements in with their attitudes to menopause scale. The present study separated these items out into a scale to cover attitudes to HRT separately. Also, as Groeneveld et al.'s (1993) study uses a larger number of statements (28) that differed in wording to the present study, direct comparisons cannot be made. However, there are strong similarities in the nature of the statements and how they cluster together which supports the idea that mid-life women's attitudes to menopause are a function of separate aspects of the menopausal experience.

Attitude to HRT

The results of participants' intention to use HRT in the future were very different from those reported by Hunter and Liao (1994). Those authors found that 42.2% expressed an intention to use HRT in the future while 44.4% did not. The present study found that only 8.3% of women intended to use HRT while 65% did not intend to use HRT in the future. Hunter and Liao (1994) also found that 13.4% were undecided or did not really know what HRT was. A higher

percentage was undecided or did not know enough about HRT in this present study. Hunskaar and Backe (1992) used a six point scale from very negative to very positive to determine women's attitudes towards HRT. In their sample 45% were positive or very positive about HRT in general, 38% were neutral or had no opinion, and only 19% were negative or very negative about HRT. These studies report far more positive attitudes towards HRT than in the present study.

The negative attitude to HRT of women who are not currently using HRT must be contrasted to the unexpectedly high rate of current or past use of HRT in the present study. The large percentage of respondents who were negative about future intention to use HRT is partly because current users, who are most positive about HRT use, were not included in this question. This disparity may indicate that two groups exist, those that are opposed to the use of HRT, and so are not using it, and those who are taking HRT. There seem to be few inhabitants in the middle ground between these extremes. This is further supported by the fact that those who do have a highly positive intention to use HRT in the future are less likely to have reached menopause and are younger than the total sample. Presumably these women will begin to use HRT when they reach menopause and are not on HRT already because it is not yet relevant for them.

Responses to the knowledge of HRT question also elicited a negative response to HRT. Almost one quarter of women stated that no reason would persuade them to use HRT when responding to an open response question. This further reinforces the negative attitude to HRT, particularly as all participants answered this question.

A negative correlation was found between the Attitude to Menopause scale and the Attitude to HRT scale. This indicates that women with a positive attitude to HRT were more likely to view menopause negatively. As agreement with items reflecting medical treatment of menopause and problems with health were coded as negative at menopause, those who have a positive attitude to HRT are likely to score lower on the Attitude to Menopause scale. Interpretation of these scales may be clarified by separating the items that refer to treatment of

menopause and those which actually refer to menopause as a negative experience.

Attitude to HRT and Health

A high rate of doctors visits is related to positive attitudes to HRT. It is impossible to determine whether women who are more positive towards HRT are more likely to visit their doctor or whether those women who visit their doctor are provided with information positive towards HRT. It is even possible that the higher rate of ill health reported by current users encourages both doctors visits and positive attitudes towards HRT. The relationship between positive attitudes to HRT and doctors visits may be an important area for future research in New Zealand, as overseas studies have found that doctors attitudes are important in predicting HRT prescription patterns. Previous studies have reported that the level of HRT use in a country may, for the most part, reflect the prescribing inclinations of the general practitioners, rather than the women's attitudes to HRT (Oddens et al, 1994). Groeneveld et al. (1995) report that considerable differences in prescribing behaviour occur between doctors, particularly when women do not present with typical symptoms of menopause. The increasing level of HRT use in New Zealand may reflect the attitude of New Zealand doctors to HRT, rather than women's attitudes.

Predicting HRT Use

Interpreting the correlation coefficients from the discriminant analysis indicated that Attitude to HRT and Menopause were the most important predictors of HRT use. Attitudes were more important in predicting HRT use than a variety of health variables. This is an important finding. Although HRT is a medication prescribed to relieve specific menopausal symptoms, it appears to be on offer to all menopausal women. Whether women begin this treatment appears to have much more to do with their attitudes than specific presenting symptoms. This may indicate that HRT use decisions are not entirely based on health concerns, but are more strongly influenced by a variety of attitudes to menopause and HRT.

The change in pattern from the correlation coefficient to the standardised coefficients indicates that the relationship between Attitude to HRT, Attitude to Menopause and HRT use is not a simple one. The shift in the importance of Attitude to Menopause in this analysis has a variety of possible interpretations. Firstly, Attitude to Menopause may not have a direct relationship to HRT use. Its influence may be mediated through Attitude to HRT. This would mean that Attitude to Menopause influences Attitude to HRT, which in turn influences HRT use. There is no direct influence between Attitude to Menopause and HRT use in this model. This appears to be a plausible relationship as attitudes to the medical treatment of menopause and the belief that symptoms accompany menopause could lead to the belief that HRT is the treatment necessary to enhance women's quality of life.

A second possible interpretation of these results is that Attitude to Menopause may moderate the relationship between Attitude to HRT and HRT use. This means that Attitude to HRT has an influence on HRT use, but only when certain Attitudes to Menopause are also present. For example, a positive attitude to HRT may predict future HRT use, but whether HRT is used also depends on whether the woman believes that menopause is a medical condition requiring treatment. Regardless of attitude to HRT, without this attitude to menopause, HRT will not be used.

The third possible model suggested by the discriminant analysis results is that the Attitude to Menopause and Attitude to HRT scales are not tapping these dimensions, but are actually measuring another dimension, for example attitude to medical intervention. This possibility would suggest that Attitude to HRT and Menopause does not influence HRT use, but attitude to medical intervention does. Attitude to HRT and Menopause appear to influence HRT use only because of their association with attitudes to medical intervention. It would be interesting to follow this possibility in further research by measuring a range of attitudes to medical intervention to understand the relationship between this and more specific attitudes to HRT and menopause.

All these possible interpretations of the discriminant analysis data provide interesting ideas for future clarification of the relationship between Attitude to Menopause, Attitude to HRT and HRT use. Regardless of which approach is favoured, it is clear from the analysis that attitudes play a vital role in determining HRT use. Future research needs to follow up this clear influence of attitudes in determining women's choice concerning future HRT use.

Limitations of the Present Study

There were a variety of limitations to the present study. The first of these limitations concerns the design of the questionnaire. A postal survey was chosen to sample a wide variety of women's attitudes and knowledge in this area. Within this design, open response questions were used to allow women to explain the risks, benefits and alternatives to HRT in their own words. It is inevitable that written surveys are restricted to those women whose literacy is of a sufficiently high standard to understand the questions. However, in the present study this problem was further compounded by the need to write answers rather than respond to check boxes. Therefore a higher level of literacy and comprehension of English language was required than for many postal surveys. This difficulty can be partly overcome by using telephone surveys, and these have been used by some researchers in this area (France et al., 1996; Shelley et al., 1995). Although this still requires an understanding of spoken English, it does not require reading or writing skills. However, this method does present a new problem, as only those with a telephone can be contacted.

The sample in this study was not a completely random selection from the electoral roll due to the problems with electoral roll information outlined. The lack of generalisability of these results was compounded by the moderate return rate of 51%. The difficulties of obtaining random samples from which generalisations can be made may not warrant the effort that must be undertaken to secure them. Although it is possible that samples can be obtained from postal surveys which reflect the general population on demographic characteristics, it is highly unlikely that this will produce a random

sample of opinions in that area. It is inevitable that surveys such as this will obtain a higher response rate from participants who have a particular interest in the area. It is likely that neutral attitudes to the subject area will be under-reported. The most important consideration with this research seems to be whether the results lose any validity as a result of their lack of generalisability.

A limitation of this study was also evident in the symptom checklist. Only those women who had experienced symptoms could attribute their symptoms to menopause. When the relationship between experiencing symptoms and attributing symptoms to menopause was removed, there was no significant difference between HRT use groups. Although this symptom checklist was based on a previous study (France et al., 1996) there was no evidence in their study that their results (finding a significant difference between current and previous or never users) corrected for the dependence between these measures. It is possible that correcting for the different level of symptom reporting between HRT use groups in their sample would remove the difference in attributing symptoms to menopause.

A related weakness of the symptom checklist results is that no information about women's beliefs on menopausal symptoms can be gained unless they have experienced a particular symptom. Participants were asked if they had experienced any of a list of symptoms, and then whether they considered this symptom to be caused by menopause. Because of this design of this question, only those who had experienced a particular symptom could provide information on whether it was caused by menopause. In future, it may be more informative to ask whether women consider this symptom to be caused by menopause, whether or not they have actually experienced this symptom themselves. Each question format provides slightly different information, that used in this present study about the women's own symptoms, the other alternative provides attitudes towards symptoms in general.

There are also limitations in interpreting the factor analysis results. Although the factor analysis provides an indication of the clustering of the Attitude to

Menopause statements, the percent of variance explained and the communalities are not high. These low figures are insufficient to allow conclusions to be drawn from this factor analysis. A partial explanation of this may have been the use of a five point scale for measuring both the Attitude to Menopause and the Attitude to HRT scales. Using a five point scale restricts the possible variance for each of these scales, which limits the magnitude of the correlations available for factoring. Increasing the scale to seven or nine points may increase these correlations, providing a sounder basis for factor analysis. An increase in variance in these scales may have improved the factor solution fit to the data.

The factor solution may also be restricted by the limited sample used in this study. A sample including women of a variety of ages and men may have provided a wider range of responding to these statements. This may also have increased correlations and improved the factor analysis fit to the data. As well as providing a statistical improvement in factor analysis, testing these measures with a range of participants would provide an interesting insight into how mid-life women are treated by others. Previous research has suggested that women are more positive about menopause than men (Bowles, 1992), and that older women are more positive about menopause than younger women (Wagner et al., 1995). This may impact on how menopause is experienced by mid-life women.

Summary

The present study set out to explore mid-aged women's knowledge of HRT, their attitudes to HRT and menopause, and their sources of information on HRT. The results of this study have provided a range of information on mid-life women's beliefs concerning HRT and menopause. This study has been particularly valuable in suggesting various avenues for future research in this area. Mid-life women have difficult and controversial decisions to make concerning postmenopausal health. Understanding their current knowledge and attitudes in this area is the first step in providing appropriate information to aid these decisions.

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Appendix A

Knowledge of and Attitudes Towards Hormone Replacement Therapy: A Pilot Study

Knowledge of and Attitudes Towards Hormone Replacement Therapy: A Pilot Study

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ABSTRACT

Women's attitudes and knowledge of HRT are important in understanding why women begin and cease HRT use. In this pilot study a convenience sample of 24 women (80% return rate) responded to a questionnaire covering items of HRT use, knowledge of risks and benefits of HRT and attitudes towards HRT and menopause. Twenty percent of this sample were currently using HRT with a further 16.7% having used HRT in the past. Current users of HRT were more knowledgeable about the risks and benefits of HRT than never users. Current users also had a more positive attitude towards HRT and a more negative attitude towards menopause than past or never users. Respondents' evaluation of the piloted questionnaire also provided valuable information for improving the format of the questionnaire.

Hormone Replacement Therapy (HRT) is prescribed for mid-aged women to alleviate a wide range of possible menopausal symptoms, or for the long term prevention of osteoporosis and cardiovascular disease. The use of HRT has increased over the last few years despite controversy over the risks and benefits of HRT. This increase in use may cause particular concern as previous studies indicate that HRT is taken by some patients to alleviate psychological symptoms it was never intended to alleviate. France, Lee and Schofield (1996) found that 50.9% of users of HRT indicated an improvement in emotional well being as a reason for short-term use of HRT. This misinformation is promoted by pharmaceutical companies as indicated by Ayerst Laboratories' (1991) promotion of HRT as an effective treatment for "anxiety, depression, mood changes, loss of memory and a feeling of being unappreciated or unloved" (p.3). This recommendation is contrary to research which has found no effect of oestrogen on psychological symptoms (e.g. Greene, 1984). The pervasive nature of this misinformation may have a strong influence on women's attitudes to HRT.

The use of HRT has been controversial with research on both the benefits and risks of this treatment. Generally HRT is considered to increase the risk of breast and endometrial cancer and reduce the risk of heart disease and osteoporosis. Shelley, Smith, Dudley and Dennerstein (1995) report that users of oestrogen replacement may have a small net gain in life expectancy with long term use. This finding must be considered in the light of several studies which indicate that women seldom continue to take HRT in the long term (Oddens, Boulet, Lehert & Visser, 1994; Shelley et al., 1995), with one study reporting that fewer that 20% of women take HRT for more than 1 year (Abraham, Perz, Clarkson & Llewellyn-Jones, 1995). Shelley et al. (1995) conclude that the short term side effects of HRT combined with the fear of long term side effects make long term use of HRT acceptable to few women. Current perspectives indicate that the risks and benefits of HRT must be managed on a case by case basis with consideration of the women's family history of illness and symptom levels (Holm, Penckofer & Chandler, 1995).

The level of women's knowledge of HRT is important. France et al. (1996) found that use of HRT was weakly related to knowledge, even among current users, with one in three unable to name any short-term benefits and over half unable to name any long-term benefits of HRT. Sinclair, Bond and Taylor (1993) found that woman had a poor knowledge of the potential risks and benefits of oestrogen, with lack of knowledge greatest in less educated and older women.

Sinclair et al. (1993) found that the low use of HRT in Scottish women did not reflect a problem of attitude towards HRT, as the majority agreed that menopause was a medical condition that required treatment. The most common reason these women gave for not taking HRT was that they had never thought of it. In addition to this, cultural differences exist in levels of symptom reporting, which is usually the main precursor to consulting a physician about HRT. A lower level of symptom experience may result in a lower level of HRT use, but may not reflect attitudes towards or knowledge of HRT. These findings suggest that there is no simple relationship between knowledge of and attitudes towards HRT and HRT use. The complex relationships between these variables need to be established in order to understand current prescription patterns.

Sinclair et al. (1993) also found that HRT users were more likely to know of potential side effects of HRT than to name benefits of the treatment. These findings suggest that the decision to take HRT is not necessarily based on the informed choice of the woman. Previous studies have reported that the level of HRT use in a country may for the most part reflect the prescribing inclinations of the general practitioners, rather than the women's attitudes to HRT (Oddens et al., 1994). Groeneveld, et al. (1995) report that considerable differences in prescribing behaviour occur between doctors, particularly when women do not present with typical symptoms of menopause. France et al. (1996) suggest that women require a clearer understanding of the effects of HRT to encourage them to take control over their own health care. This understanding can best be provided if the extent of women's current knowledge about HRT is understood.

Health promoters can then target misinformation and lack of information in particular areas.

Previous studies have found that friends and reading materials are important sources of information on menopause (Haines, Rong, Chung & Leung, 1995; Hunter & Liao, 1994). Garton, Reid and Rennie (1995) reported that doctors were the third most important source of information on menopause, following friends and women's magazines. Oddens et al. (1994) report that 87.9 % of women had received information on HRT and menopause from the media, whereas only 24% received information from medical practitioners. A recent pharmacy brochure (Amcal Chemists HealthCare, October 1997) contains an article on HRT. The information contained in this brochure deals very negatively with menopause and is contrary to much research in the area. This article reports that "the majority of women have a very rough ride through the menopausal years" (p.30). The title of this article is also highly misleading: "HRT - The modern miracle". Research not only indicates that many women experience the menopausal years as positive (Avis & McKinlay, 1991) but also that HRT is far from a miracle, the side effects of which may cause women to cease treatment (Garton et al., 1995). These sources of information are freely available for all women and may provide a highly biased set of menopausal "facts" which women subsequently base their decisions on. Knowledge of women's sources of information on HRT will allow promotion of information through salient information channels.

There is very little basic knowledge on the level of HRT use in New Zealand. Although the report of the Consensus Development Conference to the Core Services Committee on HRT (1993) suggests the prevalence of HRT use is similar to that reported for the United Kingdom (10%), the later Core Services Report itself (National Advisory Committee, 1994) suggests that the rate of HRT use by New Zealand women is similar both to Australia (known to be 30%) and UK (10%). Differing rates of HRT use have been reported with samples in Australia, the United States and European countries. Oddens et al. (1994) report a large variation in HRT use in a variety of Western European countries, with 3% and 4% using HRT in Italy and Netherlands respectively, and up to

25% in Western Germany. There are also cultural and social differences in attitudes among women in Western countries and it is unclear what women in New Zealand know about the risks and benefits of HRT nor how they make their choices, from the complexity of information available, regarding its use.

Despite a general belief in the lay and medical literature that menopause is a time of depression, loss and decay in women (Defey, Storch, Cardozo, Diaz & Fernandez, 1996) research has suggested that menopause is a positive time for many women. Avis & McKinlay (1991) report that the majority of women felt relief or neutral feelings about menopause. Those women who did report negative attitudes towards menopause had higher levels of symptom reporting and depression. These authors concluded that the menopausal syndrome was more related to personal characteristics than to menopause per se. France et al. (1996) measured positive and negative affect and found that the menopausal women studied had slightly higher positive affect and slightly lower negative affect than comparative data from college students. These studies provide no evidence that the menopausal stage is associated with elevated levels of psychological distress. As HRT use is often promoted to improve the quality of life of menopausal women it is important to have information regarding the attitudes and understandings of women in New Zealand.

Shelley et al. (1995) used a seven item scale of attitudes to menopause to examine whether these attitudes predict HRT use. The results of this study indicate that only two of these items were associated with current use of HRT. France et al. (1996), using a different, eight item, measure of attitudes to menopause and HRT found differences between HRT users and never users on six of the eight items. In particular 90% of never users agreed that natural approaches are better than HRT while only 39% of current users agreed with this statement. The relationship between attitudes to menopause and HRT use needs to be clarified.

Aims

This pilot study aims to describe the level of HRT use, attitudes towards its use and knowledge of risks and benefits of HRT in a small sample of New Zealand

women. The relationship between attitude and knowledge measures and HRT use will also be investigated. The sources of women's knowledge of HRT will also be evaluated. This information will be used to compare New Zealand women to other groups from whom similar data has been collected. This pilot study also aims to evaluate the questionnaire for future use on a larger sample of mid-aged New Zealand women randomly selected from the population.

METHOD

Participants

A convenience sample of 30 women aged between 45 and 60 years was used to pilot test this questionnaire. These women were approached at workplaces (National Library of NZ, Ezibuy factory) and through clubs and acquaintances.

Questionnaire

The following measures were included in this questionnaire.

Demographic Information

Questions enquired about each woman's age, employment situation, occupation, educational attainment, marital status and ethnic group affiliation. Occupation was coded into six categories using Irving and Elley's (1978) Index for the Female Labour Force in New Zealand.

General Health

A measure of perceived health adapted from Wolinsky and Johnson (1992) was included which asked participants to rate their health over the previous 12 months on a five-point scale. Two measures of healthcare utilisation were included. The first asked when the woman had last seen the doctor. The second healthcare utilisation question asked how many times in the previous 12 months that the woman had seen a general practitioner. Questions asked

about menopausal status (classified by period in previous 12 months and perceived menopausal status) and gynaecological surgery history. Women were also provided with a list of 15 physical symptoms and 11 psychological symptoms and asked whether they had ever experienced each symptom, whether they were currently experiencing this symptom, and whether they considered this symptom to be caused by menopause. This measure was based on a similar measure of four physical and eight psychological symptoms used in a telephone survey by France et al. (1996). The list of 26 symptoms were sourced from France et al.'s (1996) study, pharmaceutical brochures, and menopause information pamphlets, as these are readily available sources of information on menopausal symptoms for mid-aged women.

Hormone Replacement Therapy

Questions were asked about current use of HRT, past use of HRT, how long the women had used HRT, and how long they intended to continue HRT. Current user's experience of HRT was evaluated using a three item multiple-choice question from Roberts (1991). Both past and current users were asked their main reasons for starting HRT use. These questions were in open response format and responses were coded based on responses from the participants.

Knowledge of HRT

Respondents were asked whether they had heard of HRT, and to list the names of any hormones used in HRT. Respondents were also asked if they knew of any reasons for HRT use, disadvantages of HRT use and alternatives to HRT use. The format for risks, benefits, and alternatives to HRT was chosen to leave answering completely open for women to provide their own interpretations. The utility of this was shown by the questions about alternatives to HRT, which elicited a variety of responses that were not considered by the researchers (e.g. anti-depressants).

Information Sources

Respondents were asked their main sources of information on HRT and given ten sources to choose from. These sources were adapted from Hunter and Liao (1994). They were also asked if they felt they had sufficient information on menopause and whether women in general had sufficient information on menopause.

Attitude to Menopause

Attitude to Menopause was assessed using a twelve-item scale. Ten of the Attitude to Menopause statements came from Liao and Hunter (1995) with an additional two used by both France et al. (1996) and Sinclair et al. (1993). Responses to these statements were made using a four point Likert scale. Scores on six items were reversed and the score from all 12 items totaled to make a high score on the Attitude to Menopause scale indicate a positive attitude to menopause. The range of possible scores for this scale was 12 – 48.

Attitude to HRT

Five of the attitude to HRT items came from France et al. (1996) and a sixth "HRT improves the quality of life for women following menopause" was added. The possible range of scores for the Attitudes to HRT scale was 6-24.

The intention to use HRT question adapted from Hunter and Liao (1994) was used.

RESULTS

Questionnaires were given to 30 women and 24 replies were received, a response rate of 80%.

Characteristics of respondents

The respondents' age ranged from 45-58 years. The mean age of the group was 52.7. All but one of the sample identified as NZ European. The one other

ethnic group represented was Chinese. Demographic characteristics are reported in Table 1.

Table 1

Demographic characteristics of sample

	No. of women (n = 24)	% of women
Marital status		
Married	17	70.8
Separated or divorced	5	20.8
Widowed	1	4.2
Never married	1	4.2
Education		
Secondary	16	66.7
Tertiary	8	33.3
Employment		
Full time	12	50.0
Part time	10	41.7
Unpaid work	2	8.3
Job Category		
1 Professional	4	16.7
2 Skilled	4	16.7
3 Semi-skilled	6	25.0
4 Clerical	6	25.0
5 Manual	2	8.3
Missing	2	8.3

Sixty-seven percent of the sample had some secondary education and 33.3% had tertiary qualifications. Current users of HRT were more educated than never or past users. Sixty percent of current users were tertiary educated, whereas 26.7% of never users and 25% of past users fell into this category. Current users were also more likely to be in full time employment than past

users and slightly more likely than never users. No current users were engaged in unpaid work in the home.

General Health

Half of the sample reported that their health was very good, with a further 29.2% describing it as good. Only 20.8% of the sample considered their health to be average or poor. Not one of the respondents considered their health to be very poor.

The majority of the sample had been to the doctor within the last three months (54.2%), 29.2% had been to the doctor three to 12 months ago and 12.5% had not been to the doctor for more than 12 months. The number of visits to the doctor in the last 12 months ranged form zero to 15 visits. Most of the sample had three visits to the doctor or less (58.4%). The mean number of visits to the doctor was 3.6. The extreme values (14 and 15 visits to the doctor in the last 12 months) only represented 8.4% of the total sample. Interestingly these two respondents rated their overall health as average and good respectively.

Two separate items were used to evaluate menopausal status: whether the respondent reported a period in the preceding 12 months and whether they felt they had gone through menopause. These two measures produced different results. Sixty six percent of women reported not having a period in the previous 12 months, yet 79.2% felt that they had gone through menopause. This indicates that 12.5% of women who have had a period in the previous 12 months consider they have been through menopause.

Hormone Replacement Therapy

Five (20.8%) of the sample were currently using HRT. A further four (16.7%) indicated that they had used HRT in the past. This is a total of 37.5% of the sample that have used HRT at some time. Of the five current users, one had been using HRT for less than 12 months, two for 12 months to 2 years and two for 2 - 5 years. Four of the current users indicated that they intended to use

HRT for more than 5 years and the one other current user intended to continue for 2 - 5 years. Of the four past users of HRT three had used HRT for less than 12 months and one had used HRT for more than 5 years.

Seven of the sample had undergone an hysterectomy with three having had a similar operation. Two of these three respondents had one ovary removed and the other had an early menopause as a result of chemotherapy for breast cancer. Current users of HRT were three times more likely to have had an hysterectomy than never users, and more likely to have had a similar operation (see Table 2).

Table 2

Level of HRT use by type of operation (N = 24).

	Current % N = 5	Past % N = 4	Never % N = 15	Total % N = 24
Hysterectomy	60.0	25.0	20.0	29.2
Other Operation	20.0	0.0	13.3	12.5
None	20.0	75.0	66.7	58.3
Total	20.8	16.7	62.5	100.0

The four participants who had stopped using HRT gave a variety of reasons for this decision. Two indicated physical side effects, one the return of periods and the other an unwillingness to interfere with a natural process.

Knowledge of HRT

All 24 participants had heard about HRT. Seventy percent of the sample was able to provide at least one reason for taking HRT. The most common reason for taking HRT cited was for relief of menopausal symptoms. Other reasons

mentioned were osteoporosis, heart disease, emotional stability and to help with the aging process. Current users of HRT were more knowledgeable than past or never users (Table 3.)

Sixty three percent of the sample knew at least one disadvantage of HRT. Cancer was the most commonly mentioned disadvantage of HRT. Weight gain, return of periods and physical side effects were also mentioned (see Table 3).

Table 3

Women's knowledge of HRT

	% Total N = 24
Advantages	70.8
Menopausal symptoms	62.5
Osteoporosis	41.7
Heart disease	25.0
Emotional stability	20.8
Aging process	12.5
Other	8.3
Disadvantages	62.5
Cancer	50.0
Weight gain	29.2
Return of periods	20.8
Side effects	12.5
Other	20.8
Alternatives	62.5
Herbal remedies	41.7
Diet changes	20.8
Exercise	12.5
Other	25.0

Half of the sample could not name any hormones used in HRT. Oestrogen was the most commonly named hormone. Twenty percent of the sample knew only oestrogen, 20.8% named both oestrogen and progestogen, and a further 8.3% were able to name testosterone.

Alternatives to HRT were known by 62.5% of the sample. The most commonly known alternative to HRT was herbal remedies. Diet and exercise were also listed as alternatives to HRT. Twenty five percent of the sample also listed other alternatives, many of these were general advice to take care of yourself, or to use positive thinking. Alternatives listed in the 'other' category also include anti-depressants and use of a personal lubricant for vaginal dryness (see Table 3).

Information sources

The majority of this sample reported that they personally had sufficient information about menopause (75%). However fewer than this said that women generally had enough information. Only 54.2% responded that they thought women in general had sufficient information about menopause. Many of the sample responded that information was available, but that you had to look for it. This comment was typical:

> "The information is definitely available though I believe many women are unsure how to access it, or the material may not be appropriate for them." (no 5)

Women in this sample have used a variety of information sources to gather information on HRT. The most common sources of information were friends and relatives, and doctors. The next most important source of information was magazines, followed by newspapers and books. Other health care providers, radio and television were also sources of information. The 'other' category included information from the internet and from a seminar one women (a journalist) reported on. Past and current users of HRT were more likely to have received information from doctors than never users. However, never users

were more likely to have used friends and relatives as sources of information. Current users were also more likely to have used books and other health care providers for information than past or never users (see Table 4).

Table 4

Sources of Information by HRT use

	Current % N = 5	Past % N = 4	Never % N = 15	Total % N = 24
Doctors	100.0	100.0	40.0	62.5
Friends and relatives	40.0	50.0	73.3	62.5
Magazines	40.0	50.0	53.3	50.0
Newspapers	20.0	25.0	40.0	33.3
Books	60.0	25.0	26.7	33.3
Other healthcare providers	40.0	25.0	20.0	25.0
Radio	20.0	25.0	20.0	20.8
Television	0.0	25.0	26.7	20.8
Mother	0.0	0.0	6.7	40.2
Other	40.0	0.0	13.3	16.7

Attitude to HRT and Menopause

Of the 17 who responded to the intent to use HRT scale, 33.3% definitely did not want HRT and a further 55.6% responded they would rather not have it, but would consider it. The remaining 11.1% were undecided. No one in the sample responded positively to future use of HRT. A quote from one woman appears to sum up HRT intentions:

> "Whilst at this stage I feel very definite about not taking HRT - if things got 'Real Bad' - I probably would reconsider. However I would explore all possible natural therapies first and would not

consider taking it just to avoid osteoporosis as there are many other options available." (no 4).

This attitude towards HRT indicates that it would be considered only as a last resort if menopausal symptoms became too much.

Scores on the Attitude to HRT scale ranged from 8 to 19 with the mean score of 14.2. As the neutral point on this sale is 15, this indicates that the majority of this sample (66.8%) had neutral or negative attitudes towards HRT. The Attitude to Menopause scores ranged from 30-47 with a mean of 36.1. This indicates that all the respondents had neutral or positive attitudes to menopause. As there was a noticeable amount of missing data for these two scales mean substitution was used.

Current users of HRT had a more positive attitude towards HRT than never or past users. Current users also had a more negative attitude towards menopause as shown in Table 5.

Table 5

Mean score (M) on Attitude to Menopause and Attitude to HRT Scales by HRT use

	Current	Past	Never	Total
	M	*M*	*M*	*M*
Attitude to Menopause	34.6	36.1	36.6	36.1
Attitude to HRT	16.0	13.9	13.7	14.2

There was a moderate negative relationship between the Attitude to Menopause and Attitude to HRT scales ($r(24) = -0.55$, $p = .003$).

There was also a low negative correlation between Attitude to Menopause and the number of visits to the doctor in the previous twelve months ($r(24) = -0.24$, $p = 0.13$). Although this is a low correlation it does indicate that women with higher number of doctor visits are less positive about menopause. This may be

worth investigating further in the main study to see if a stronger relationship is found.

The relationship between the intention to use HRT and the Attitude to HRT and Menopause scales reinforces the validity of both. Most of this sample indicated that they did not intend to use HRT. Most also had a negative attitude towards HRT. Those participants who were most opposed to future use of HRT had a higher mean Attitude to Menopause score (39.3) and a lower mean Attitude to HRT score (12.7) than the total sample (36.1 and 14.2 respectively). They also had a higher Attitude to Menopause score and a lower Attitude to HRT score than those who indicated that they would consider using HRT in the future did (35.4 and 13.9 respectively).

Questionnaire Evaluation

Eight of the 24 questionnaires returned (33.3%) indicated that the Attitude to Menopause and Attitude to HRT response scales needed a neutral point. Two respondents also mentioned difficulty in answering the symptom checklist question. Another point made by two respondents was that some of the questions were difficult to answer or not relevant as they had not been through menopause yet. This may indicate the difficulty in creating a questionnaire on menopause and HRT for an age range that includes both premenopausal and postmenopausal women.

Although eight of the women made no comments on the questionnaire evaluation, the majority (66.7%) made some comment, either about the questionnaire itself or to make general comments about their interest in the research area. Four women responded with their interest in the research area and their enjoyment in taking part. One particularly interesting comment from a late return:

> "I've found it interesting - made me think about my attitude and understanding and just where I am at the moment - Thanks for giving me the opportunity to do this questionnaire and to re-evaluate my own thoughts." (no24).

DISCUSSION

One of the most striking findings of this study is the level of HRT use in this sample. More than 20% were currently using HRT with a further 16.7% having used it in the past. This is a much higher level of HRT use than estimated by other sources. Estimates range from the Consensus Development Conference to the Core Services Committee on HRT (1993) suggestion that prevalence of HRT use is similar to the United Kingdom (10%) to the later Core Services Report (National Advisory Committee, 1994) itself which suggests that the rate of HRT use is similar both to Australia (known to be 30%) and the UK.

The relationship between use of HRT and history of hysterectomy is a common finding. Shelley et al. (1995) found that women who had a hysterectomy were 6 times more likely to be HRT users than women who had not had a hysterectomy. The results from France et al. (1996) were similar to the results found in the present study.

In this study half of the women discontinued HRT as a result of physical side effects, one because of the return of periods and the other to avoid interfering with a natural process. These findings on discontinuing HRT use can be compared to that of Klein and Dumble (1994). They also found that almost 50% discontinued HRT because of side effects, with a further 20% discontinuing on GP's advice, 18% because of fears of cancer and 17% because HRT was ineffective.

The number of participants who could name hormones used in HRT was similar to that of France et al. (1996). Fifty one percent of their sample could name at least one hormone compared with 50% in this present study.

Similar results to those of France et al. (1996) were also obtained for reasons for taking HRT, however, higher numbers of women in this present sample knew of the risks of HRT. Twice as many current and past users knew of the risks of cancer, and weight gain was mentioned by almost 4 times as many as

mentioned this in the France et al. (1996) study. Similarly, never users were less likely to list the risks of HRT. Interestingly, even though this present sample had more information than the France et al. (1996) sample, similar numbers indicated they had sufficient information. A similar percentage also indicated that women in general did not have sufficient information.

The results on participants' intention to use HRT in the future were very different from those reported by Hunter and Liao (1994). Those authors found that 42.2% expressed an intention to use HRT in the future while 44.4% did not. The remaining 13.4% were undecided. A similar percentage of 11.8% was undecided in this present study, however none of the sample expressed a positive intention to use HRT in the future and more than one third were adamant that they would not use HRT. Hunskaar and Backe (1992) used a six point scale from very negative to very positive to determine women's attitudes towards HRT. In their sample 45% were positive or very positive about HRT in general, 38% were neutral or had no opinion, and only 19% were negative or very negative about HRT. This indicates a far more positive attitude towards HRT than in our sample. The negative attitude towards HRT by those who are not currently on HRT found in this present study must be contrasted to the unexpectedly high rate of current or past use of HRT. This disparity may indicate that two groups exist, those who are opposed to the use of HRT and so are not using it, and those who are taking HRT. There seem to be few inhabitants in the middle ground between these extremes. The results suggest that HRT users have more positive attitudes to HRT and more negative attitudes towards menopause than past and never users. However the small sample size can provide only an indication of trends that may be found in the main study. This question will be explored fully in the main study.

Questionnaire Evaluation

The main aim of this pilot was to evaluate the questionnaire items. As a result of this some changes were made to questions. The first change concerned the symptom checklist. The question asked respondents to tick a long line of boxes if they had ever experienced a symptom, another line if they were currently

experiencing this symptom and a final line if they believed this symptom to be caused by menopause. There was evidence in the responses that some participants found this format confusing, and it was filled out incorrectly by at least one participant. Another participant placed an 'N' in front of the instruction 'Ever experienced' and responded accordingly. This confusion was addressed by removing the 'Currently experiencing' column and making the question instructions correspondingly simpler.

An addition to the original questionnaire was the inclusion of a question asking current users what their reasons for starting HRT were. Although doctors suggested a wide range of benefits of HRT use, it is important to know which of these benefits are instrumental in women's decision making. Newton et al. (1997) asked for women's reasons for initiating HRT use and found that menopausal symptoms were the most frequently cited reason for initiating HRT.

The questionnaire lacked an opportunity for current users to report their experiences of HRT. Current users' opinions may not necessarily be all positive simply because they have remained on HRT. A question was added to incorporate this aspect. Respondents were asked 'Overall, how have you found the effects of hormone replacement therapy?' The response evaluates whether HRT users expectations of HRT are met.

Two questions added to the questionnaire tapped which factors would be most influential in participants' decision making about HRT. Following the question asking participants to list all the reasons they knew for using HRT a further item will be included: 'which one of the these reasons would be most likely to persuade you to use HRT?' Similarly, following the disadvantage question the participants will be asked 'which one of these disadvantages would be most likely to persuade you not to use HRT?' This change was made as listing all reasons for HRT use does not indicate which of these reasons motivate women's decision making. Previous studies suggest that relief of immediate symptoms such as hot flushes were of more of concern to women than long term disease prevention (Graziottin, 1996; Rothert, Rovner, Holmes & Schmitt, 1990; Wagner, Kuhn, Petry & Talbert, 1995). Just as immediate symptom relief

is the most important advantage to women, perhaps immediate disadvantages such as return of menstrual periods and side effects are of more concern than long term disadvantages such as increased risk of cancer.

The attitude scale was also changed as a result of this pilot study. The 4 point scale used in this present study has been changed to a 5 point scale. Results from this study showed that seven of the participants (29.2%) mentioned the difficulty of responding to the attitude questions without a neutral point on the scale. This also resulted in a considerable amount of missing data (26% in the Attitude to HRT scale and 35% in the Attitude to Menopause scale). For these reasons the scale was increased to include a neutral point. The five point scale was favoured as it corresponds with previous studies (Hunter & Liao, 1995) and includes a neutral point without introducing the extra complexity of a seven point scale.

A very important outcome of this pilot study was to bring to our attention the wealth of qualitative data women provided. Much of this information stems from the women's engagement with the topic, their interest in relating anecdotes of friends' experiences, and to elaborate on their own answers. Quotes such as the following provide an interesting insight into women's understanding of the nature of menopause:

> "I became concerned about the side effects & wanted to work my way through naturally, without chemical assistance, through what is a natural process for women. I have a very supportive husband" (no.17).

This is an area that we will now be prepared to explore further within the main study.

References for this pilot study are included with the Reference list for the thesis.

Appendix B

The Research Questionnaire

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1 ☐☐☐

Hormone Replacement Therapy Questionnaire

Please answer the following questions by ticking the box or writing in the lines provided. If you are not sure of an answer, please tick the box that best describes your response to that question rather than leaving the question unanswered.

Personal Details

1. What is your age in years? _____

2. Which of the following best describes your present work situation?
(Please tick one box)

1 ☐ Unpaid work in the home
2 ☐ Full-time work (30 hours a week or more)
3 ☐ Part-time work (less than 30 hours a week)
4 ☐ Retired
5 ☐ Unemployed/redundant
6 ☐ Permanently unable to work/ill
7 ☐ Other
Please explain

_____
_____
_____

3. If you are in paid work, what is your main occupation?

7 ☐

_____

If you are retired, unemployed or permanently unable to work, what was your main occupation before you stopped working?

_____

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4. Please indicate the highest level of education you have completed.
(Please tick one box)

1 ☐ Primary school
2 ☐ Some secondary school
3 ☐ School Certificate, University Entrance, Bursary or similar qualification
4 ☐ Tertiary qualification

---

5. What is your current marital status?

1 ☐ Never married
2 ☐ Married or living as married
3 ☐ Separated or divorced
4 ☐ Widowed

---

6. If you are married or widowed, what is or was your husband's main occupation?

☐
10

_____

---

7. Which one ethnic group do you feel you most belong to?

1 ☐ NZ European/Pakeha
2 ☐ NZ Maori
3 ☐ Pacific Islander
4 ☐ Chinese
5 ☐ Indian
6 ☐ Other

General Health

---

8. Over the past 12 months, would you say your health has been:
(Please tick one box)

1 ☐ Very good
2 ☐ Good
3 ☐ Average
4 ☐ Poor
5 ☐ Very poor

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9. When was the last time you saw the doctor?

1☐ In the last two weeks
2☐ More than two weeks ago but less than three months
3☐ More than three months ago but less than six months
4☐ More than six months ago but less than one year
5☐ One year ago
6☐ More than one year ago

---

10. How many times in the last 12 months have you seen any GP or been visited by one (e.g. family doctor, but not a specialist)?

☐☐☐

_____

---

11. Have you ever had any of the following operations?

1☐ Hysterectomy (uterus (or womb) removed)
2☐ Hysterectomy and both ovaries removed
3☐ Both ovaries removed
4☐ Any other similar operation
Please explain

_____
_____

---

12. Have you had a period in the last 12 months?

1☐ Yes
2☐ No

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13. Here is a long list of symptoms that have been associated with menopause by some people. Please tick if you have ever experienced any of the following symptoms. Also indicate whether you consider menopause (or 'change of life') has caused this symptom.

	Have You Ever Experienced This Symptom	**Do You Think This Is Caused By Menopause**
Hot flushes	☐	☐
Night sweats	☐	☐
Vaginal dryness	☐	☐
Urinary symptoms	☐	☐
Problems with menstrual periods	☐	☐
Irritable bowel	☐	☐
Bladder problems	☐	☐
Constipation	☐	☐
Skin changes	☐	☐
Less interest in sex	☐	☐
Pain or discomfort with intercourse	☐	☐
Trouble sleeping	☐	☐
Unusual tiredness	☐	☐
Aches and pains	☐	☐
Migraines and headaches	☐	☐
Sudden mood swings	☐	☐
Nervousness	☐	☐
Unloved feelings	☐	☐
Depression	☐	☐
Irritability	☐	☐
Confusion	☐	☐
Aggressive feelings	☐	☐
Loss of confidence	☐	☐
Panic attacks	☐	☐
Forgetfulness	☐	☐
Excessive weight gain	☐	☐
Other problems	☐45	☐72

Please explain

_____

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14. Do you feel that you have reached or have been through the menopause (or 'change of life')?

1 ☐ Yes
2 ☐ No

Hormone Replacement Therapy

---

15. Do you currently use hormone replacement therapy?

1☐ Yes
2☐ No

If no, please go to question 20.

---

16. What were your main reasons for starting hormone replacement therapy?

_____
_____
_____
_____

---

17. Overall, how have you found the effects of hormone replacement therapy?

1 ☐ Better than expected
2 ☐ Same as expected
3 ☐ Worse than expected
Any comments

_____
_____
_____

---

18. How long have you used hormone replacement therapy for?

1 ☐ Less than 12 months
2 ☐ 12 months to 2 years
3 ☐ 2 years to 5 years
4 ☐ More than 5 years

10

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19. How long do you expect to continue hormone replacement therapy for?

1 ☐ Less than 12lmonths
2 ☐ 12 months to 2 years
3 ☐ 2 years to 5 years
4 ☐ More than 5 years

Please go to question 26.

---

20. Have you used hormone replacement therapy in the past?

1 ☐ Yes
2 ☐ No

If no, please go to question 24.

---

21. What were your main reasons for starting hormone replacement therapy?

_____
_____
_____
_____

---

22. How long did you use hormone replacement therapy for?

1 ☐ Less than 12 months
2 ☐ 12 months to 2 years
3 ☐ 2 years to 5 years
4 ☐ More than 5 years

---

23. Why did you stop taking hormone replacement therapy?

_____
_____
_____
_____

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24. If you are not currently using hormone replacement therapy (HRT) please tick the statement that best describes your intention to use it in the future.

1 ☐ I definitely won't want HRT.
2 ☐ I'd rather not have HRT but would consider it.
3 ☐ I'd like to have HRT but have some concerns.
4 ☐ I definitely will want HRT.
5 ☐ I am undecided.
6 ☐ I don't really know what it is.

---

25. Had you heard about hormone replacement therapy (HRT) before you received this questionnaire?

1 ☐ Yes
2 ☐ No

---

26. Please list the names of any hormones you know are used in hormone replacement therapy.

_____
_____
_____

---

27. Do you know of any reasons why women use hormone replacement therapy?

1 ☐ Yes
2 ☐ No

If yes, what are these reasons?

_____
_____
_____
_____
_____
_____

Which one of these reasons would be most likely to persuade you to use HRT?

_____

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28. **Have you heard of any possible disadvantages of using hormone replacement therapy?**

1 ☐ Yes
2 ☐ No

If yes, what are these disadvantages?

_____
_____
_____
_____
_____
_____
_____

Which one of these disadvantages would be most likely to persuade you not to use HRT?

_____

29. **Do you know of any alternatives to hormone replacement therapy?**

1 ☐ Yes
2 ☐ No

If yes please explain

_____
_____
_____
_____
_____

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30. What have been your main sources of information on hormone replacement therapy (HRT)?
Please tick as many boxes as apply.

- ☐ Mother
- ☐ Friends or relatives
- ☐ Television
- ☐ Radio
- ☐ Newspaper
- ☐ Magazines
- ☐ Books
- ☐ Doctor (GP or specialist)
- ☐ Other health providers (family planning clinics, health education leaflets)
- ☐ Other
  Please explain

_____

_____

31. Do you feel that you have enough information about menopause (or 'change of life')?

- 1☐ Yes
- 2☐ No

Any comments

_____

_____

32. Do you feel that women in general have enough information about menopause (or 'change of life')?

- 1 ☐ Yes
- 2 ☐ No

Any comments

_____

_____

_____

66

33. The following are a list of statements about menopause and hormone replacement therapy (HRT). Please state your level of agreement with each statement on the following five-point scale.

1	2	3	4	5
strongly agree	moderately agree	neither agree nor disagree	moderately disagree	strongly disagree

___ Women with distressing symptoms should take HRT.

___ Risks of taking HRT outweigh the benefits.

___ Natural approaches are better than HRT.

___ Women can not control menopausal symptoms without the use of HRT.

___ HRT is necessary for most women over the age of 50.

___ HRT improves the quality of life for women following menopause.

___ Physical attractiveness declines noticeably after menopause.

___ It is good to be free from menstrual periods after menopause.

___ Menopause is part of normal life, which most women can deal with themselves.

___ Menopause is an unpleasant reminder of aging and death.

___ It is a relief to be free from the risk of pregnancy after menopause.

___ Hormonal changes at menopause cause depression or irritability.

___ Menopause can mark the beginning of a new and fulfilling stage of a woman's life.

___ Menopause brings problems with physical health.

___ Enjoyment of sexual activities increases after menopause.

___ Menopause is a deficiency disease, which requires medical treatment in most cases.

___ A woman feels like less of a woman after the menopause.

___ Women who have trouble with menopause are those who expect it.

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34. This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past few weeks. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

___	interested	☐
___	distressed	☐
___	excited	☐
___	upset	☐
___	strong	☐
___	guilty	☐
___	scared	☐
___	hostile	☐
___	enthusiastic	☐
___	proud	☐
___	irritable	☐
___	alert	☐
___	ashamed	☐
___	inspired	☐
___	nervous	☐
___	determined	☐
___	attentive	☐
___	jittery	☐
___	active	☐
___	afraid	☐

20

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35. Please indicate how your health has been in general, over the past few weeks. Please answer all questions below simply by circling the answer.

Have you recently been able to concentrate on whatever you're doing? ☐ 21

Better than usual Same as usual Less than usual Much less than usual

Have you recently lost much sleep over worry? ☐

Not at all No more than usual Rather more than usual Much more than usual

Have you recently felt that you are playing a useful part in things? ☐

More so than usual Same as usual Less useful than usual Much less useful

Have you recently felt capable of making decisions about things? ☐

More so than usual Same as usual Less capable than usual Much less useful

Have you recently felt constantly under strain? ☐

Not at all No more than usual Rather more than usual Much more than usual

Have you recently felt that you couldn't overcome your difficulties? ☐

Not at all No more than usual Rather more than usual Much more than usual

Have you recently been able to enjoy your normal day-to-day activities? ☐

More so than usual Same as usual Less than usual Much less than usual

Have you recently been able to face up to your problems? ☐

More so than usual Same as usual Less than usual Much less than usual

Have you recently been feeling unhappy or depressed? ☐

Not at all No more than usual Rather more than usual Much more than usual

Have you recently been losing confidence in yourself? ☐

Not at all No more than usual Rather more than usual Much more than usual

Have you recently been thinking of yourself as a worthless person? ☐

Not at all No more than usual Rather more than usual Much more than usual

Have you recently been feeling reasonably happy, all things considered? ☐ 32

More so than usual Same as usual Less than usual Much less than usual

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This is the end of the questionnaire.

Thank you very much for the time you have taken to answer these questions.

If you have any comments please write them here.

PLEASE RETURN THIS QUESTIONNAIRE IN THE PRE-PAID ENVELOPE PROVIDED.

Appendix C

Covering Letter for the Present Study

Massey University
COLLEGE OF HUMANITIES & SOCIAL SCIENCES

School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5673

Knowledge of and Attitudes to Hormone Replacement Therapy

15 June 1998

Dear .....

My name is Christine Stephens and I am a lecturer in the School of Psychology at Massey University. With two graduate students, Mary Breheny and Nicola Ross, I am currently carrying out research with mid-aged women.

I am writing to ask for your help with a survey on women's health in middle life. We are particularly interested in women's knowledge of and attitudes to hormone replacement therapy as very little is known at present about this in regard to New Zealand women.

Your name was taken from the electoral roll. Any information that you provide will be anonymous and used only for the purposes of this survey. No individual woman will be identified in any report from this survey.

We are interested in replies from all women, including those who have not reached the menopause or have never taken hormone replacement therapy. However, your participation is voluntary (your choice). If you are willing to take part, please answer the questions on the enclosed form and return them to us in the pre-paid envelope provided. Please note that we assumed that if you fill in the questionnaire, you consent to participate in this survey. You have the right to decline to answer any particular questions.

If you would like any further information or have any questions about the study please do not hesitate to contact Christine Stephens at the address above or direct telephone to: 06 350 4146.

Yours sincerely

Dr Christine Stephens

Appendix D

Reminder Letter for the Present Study

Massey University
COLLEGE OF HUMANITIES & SOCIAL SCIENCES

School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5673

Knowledge of and Attitudes to Hormone Replacement Therapy

29 May 1998

Dear .....,

My name is Christine Stephens and I am a lecturer in the School of Psychology at Massey University. With two graduate students, Mary Breheny and Nicola Ross, I am currently carrying out research with mid-aged women.

You may recall receiving a questionnaire about hormone replacement therapy and health issues a few weeks ago. We would like to thank you for taking the time to complete and return the questionnaire. If you have not returned the questionnaire, we would like to extend the invitation for you to do so at your earliest convenience. If your questionnaire has been mislaid there are further copies available from Christine Stephens.

If you have any queries or concerns about the questionnaire, please do not hesitate to contact Christine Stephens at the above address or telephone 06 350 4146.

We plan to publish the results of this study in national magazines so that they are available to New Zealand women. If you would like a summary of the results sent to you personally, please complete and post the attached form.

Thank you again for your interest.

Yours sincerely

Dr Christine Stephens

Appendix E

Form to Request Summary of Study Results

Results Request Form

Knowledge of and Attitudes to Hormone Replacement Therapy Questionnaire

Please send a summary of results to:

Name: .....

Address: .....

City: .....

Fold ↑

Fold ↓

Please affix stamp here

TO: Dr Christine Stephens
School of Psychology
Massey University
Private Bag 11 222
Palmerston North

Staple or Cellotape
↓