PROTECTION OF AUTHOR’S COPYRIGHT

This copy has been supplied by the Library of the University of Otago on the understanding that the following conditions will be observed:

1. To comply with s56 of the Copyright Act 1994 [NZ], this thesis copy must only be used for the purposes of research or private study.

2. The author's permission must be obtained before any material in the thesis is reproduced, unless such reproduction falls within the fair dealing guidelines of the Copyright Act 1994. Due acknowledgement must be made to the author in any citation.

3. No further copies may be made without the permission of the Librarian of the University of Otago.
THE MENOPAUSE TRANSITION: WOMEN'S RE-DEFINITION AT MIDLIFE.

A community survey of urban and rural women in the province of Otago, New Zealand.

Valerie H Markham.

A thesis submitted for the degree of Master of Health Science at the University of Otago, Dunedin, New Zealand.

30 March 1999.
"In health, however, the most popular route of association is that between the female reproductive organs and the female mind. This association is usually marked by large, simple conceptions, more noticeable for their tenacity than for their detail."

Mary Ellman,
Thinking About Women (1969). p.12,
Menopause is a discrete physiological event which is an integral and inevitable part of the reproductive life of women. It is the final menstrual period and marks the end of the years of fertility which begin just after menarche. Menopause should be a straightforward passage to the next stage of women's development, but it has been subjected to diverse perspectives which have alienated it from the simple termination of a natural phase in the life continuum. Like other processes in women's physiology, it has undergone 'medicalisation', 'commercialisation' and has been generally politicised.

In order to investigate current attitudes and beliefs about menopause a random community survey of midlife women was conducted, utilising a population sample already canvassed in the Otago Women's Health Survey (1989). Responses from 236 women aged 40 - 65 years yielded information about sociodemographics, physical and mental health status including self-concept, and attitudes to midlife events including menopause, and its contingent effects.

Three instruments were used, two recognised, the General Health Questionnaire-12 (GHQ-12) to screen for minor psychiatric morbidity, and the Self Concept Questionnaire (SCQ) for assessing self-esteem, and one devised specifically for this survey, Current Attitudes to Menopause (CAM). Some data previously collected from the sample population in 1989 were available for comparison.

The primary objective was to evaluate the prevailing attitudes to menopause and its effects on social role functioning, personal beliefs about its impact and any morbidity, mental or physical that may be concomitant on the physiological changes. Any significant differences in individual GHQ and SCQ scores between 1989 and 1997 were expected to strengthen the assessment of midlife change.

No significant differences in mental health status or self concept in the interval between 1989 and 1997 were found, and good health in 1989 predicted positive attitudes to midlife and menopause. Previously prevailing theories of menopause that predict related difficulty and distress were not found to be accurate. The incidence of depression as a de novo illness,
concomitant with menopause was not increased. This is a similar finding to studies in other countries. Symptoms were most prevalent in the perimenopausal group and the most common occurring were fatigue and anxiety. Premenopausal women were a little apprehensive as menopause approached, whereas postmenopausal women, with hindsight, considered their changing physiology to have had only transient and nonsignificant effects on their lives. In general menopause was welcome, or passed uneventfully for most women, though was not experienced so philosophically by women who had had a surgical menopause.

The findings suggest that despite the persistent social and clinical construction of menopause as a hurdle to be overcome, this was not women’s actual experience. This seems to confirm the emerging theory of menopause as simply a transition to another stage in life development.
Acknowledgments.

I am indebted to several people for the support and guidance given to me throughout the course of this project. I wish to acknowledge their help and encouragement.

I am grateful to my supervisors Professor Sarah Romans and Mrs Judy Martin, both of whom gave unstintingly of their time to read and discuss seemingly endless drafts. Professor Romans provided the initial impetus to turn an intriguing observation into a thesis project with her encouragement, enthusiasm and advice. Judy gave much appreciated practical guidance and moral support often above and beyond the call of duty. The secretarial staff of the Department of Psychological Medicine were at all times cheerfully willing to provide assistance for which I am also grateful.

I wish also to acknowledge the helpful discussions I have had with other staff, Mrs Eleanor Morris in particular.

To my friends, who didn't seem to tire through long debates, I am also indebted for their insightful contributions.

Finally the women of Otago who agreed to participate in the survey. I was delighted by the enthusiasm many of them showed by their willingness not just to complete the lengthy questionnaires but to add personal messages of friendly interest. They increased my motivation and made a sometimes arduous task pleasurable.
PREFACE.

At the beginning of 1995 I began clinical research into hormone replacement therapy and cardiovascular disease as an assistant to Associate Professor R. Walker and Dr. N. Lewis-Barned in the Department of Medicine at the University of Otago.

In the course of many euglycaemic hyperinsulinaemic clamp procedures which take at least two hours, I listened to midlife women talk about themselves and their lives and I was impressed by their insight and the mastery most of them had over their personal environment. This seemed contrary to the overwhelmingly negative view of the menopausal years which has been current in the popular print and broadcast media either overtly or by implication. With each public recruitment of subjects for the study I found myself talking to women who were thirsty for knowledge about what to expect at midlife or what to do about the changes in their physiology. There was a huge contradiction in society's expected traditional passivity of women and their own demonstrated and insistent agency.

At the urging of Professor Romans I began reading more thoroughly about the psychosocial aspects of women's midlife transition since these seemed to have a greater influence on women than did the change in their physiology. I sought to reconcile the inevitable endocrine changes with both the contemplated and unanticipated personal environmental changes in their lives because together they wrought an apparent, sometimes dramatic, change in the way many women functioned. I also wanted to discover whether this was a recently initiated phenomenon, or if many women had gradually and quietly assumed this control over their lives, and if so, at what stage, and what proportion of them had done so.

Trying to describe the personal processes I could see and hear, I attempted to categorise them as 'autonomy', 'self-esteem' and 'self-realisation' and discovered that this was indeed not new at all, but similarly described in the literature as far back as 1963 when Neugarten, Wood, Kraines and Loomis published a paper on women's attitudes to midlife. Although these were not the terms used, they were again implied in a later paper by Professor M. Notman published in 1979, and in many more since then. The foundation for these ideas seemed to lie in the use of the phrase 'developmental stage' and have some reference to Erikson's theories about normal psychological progress toward maturity.
These three are very difficult concepts to pin down, and at this stage only arbitrary definitions would have been possible within the scope of this study. Therefore this has been a much more general survey to try to elucidate the simpler questions of 'whether' and 'when' that arose as preliminary to the more complex notions of 'what' constitutes autonomy, self-esteem and self-realisation in women at midlife.

What I feel less uncertain about is that, for a large proportion of women, midlife is a time of personal re-definition.

Consequently the objective of this survey was an attempt to determine the current attitudes of women to menopause, in the context of concurrent midlife events which relate to the physiological changes of the menopause years.
CONTENTS.

Abstract i.
Acknowledgements iii.
Preface iv.
Table of Contents vi.
List of Abbreviations xiv.
List of Tables xvi.

1. MENOPAUSE TRANSITION.
1.1. Introduction 1
1.2. Literature review 1

1.2.1. Conceptualisation of menopause 2
   i. Historical perspectives 2
   ii. Early modern perspectives: Sociocultural theories 5
   iii. Recent Perspectives: Psychosocial theories 8
   iv. Menopause as disease; medicalisation 10

1.2.2. Subjective acceptance of menopause framing 11

1.2.3. Influence of social perceptions of menopause 13
   i. Concurrence of menopause concepts 13
   ii. Men’s perception of women’s menopause 15
   iii. The perspective of medical science 16
   iv. Psychiatric morbidity: Clinical features 17
   v. Psychological investigations: Community populations 19
   vi. Sexuality and menopause 20

1.2.4. Cultural Perspectives 22
   i. Medical sociology 22

1.2.5. Epidemiology 25
   i. The Framingham Heart Study 27
   ii. The Nurses Study 27
iii. The Lipid Research Clinics Program Follow-up Study 28
iv. The Postmenopausal Estrogen/Progestin Interventions Trial 28

1.2.6. Psychological Investigations
i. The Healthy Woman Study 28
ii. Cognitive Studies 30

1.2.7. Psychosocial Research Studies
i. Massachusetts Women’s Health Study 31
ii. The Manitoba Project 34
iii. The Melbourne Women's Midlife Health Project 36

1.2.8. Interdisciplinary Research. 39

1.2.9 The present study. 42

2. METHOD

2.1. Introduction 43

2.2. Sampling Technique 43

2.3. Ethnicity. 44

2.4. Sampling. 44

3. SUBJECTS.

3.1. Procedure 45

3.2. Instruments 45
   i. General Health Questionnaire 46
   ii. Self-Concept Questionnaire 49
   iii. Current Attitudes to Menopause 50

3.3. Statistical Analysis 51

3.4. Menopausal status: brief definitions. 53

3.5. Symptoms of menopause. 53

4. RESULTS.

4.1. Response rate 56

4.2. Demographic characteristics of Sample. 56
i. General

ii. Home ownership

iii. Caregiving - dependent parents
    - dependent children

4.3. Comparison of 1997 respondents and non-respondents.

i. Marital status

ii. SES in 1989 by response in 1997


4.4. Menopausal Status.

i. Group characteristics.

ii. Age in 1989 by menopausal status in 1997

4.5. Menopausal Symptoms

i. Prevalence

ii. Prevalence per individual

iii. Experience of symptoms by menopausal status

iv. Vasomotor vs. non-vasomotor symptoms

v. Association of symptoms; hot flushes by age

vi. Hot flushes by menopausal status

vii. Hot flushes by menopausal status by midlife assessment

viii. Menorrhagia by age

ix. Menorrhagia by menopausal status

x. Fatigue by age

xi. Fatigue by menopausal status

xii. Fatigue by menopausal status by number of dependent children

xiii. Fatigue by menopausal status by employment

xiv. Fatigue by number of social roles

xv. Anxiety by age

xvi. Anxiety by menopausal status

xvii. Vaginal dryness by age
xviii. Vaginal dryness by menopausal status 65
xix. Insomnia by age 65
xx. Insomnia by menopausal status 65
xxi. Symptoms by education level 66
xxii. Symptoms by employment status 66
xxiii. Summary 66

4.5. Mental Health; Consistency.
   i. Demographics and mental health status 67
   ii. GHQ, SCQ and age by education level 67
   iii. SCQ in 1989 and 1997 67
   iv. GHQ in 1989 and 1997 69
   v. SCQ in 1989 by midlife assessment in 1997 69
   vi. SCQ in 1989 by symptoms in 1997 69
   vii. SCQ in 1989 by menopausal status in 1997 69
   viii. GHQ in 1989 by non-vasomotor symptoms 69
   ix. SCQ in 1989 by midlife assessment 69
   x. GHQ in 1989 by non vasomotor symptoms 69
   xi. Summary 71

5. MARITAL HARMONY.
   i. Agreement with husband/partner 72
   ii. Personal decision status within household 72
   iii. Harmonious partnership 72
   iv. Marital status and mental health 72
   v. Marital harmony and menopausal status 72

5.1. Health status: General
   i. Health status by symptoms of menopause 73
   ii. Frequency of GP visits 73
   iii. Health status by GP visits 73
5.4. Menstrual History; menarche
   i. Mean age of menarche 81
   ii. Source of information about menarche 81
   iii. Acceptance of menarche 81

5.5. Premenstrual Syndrome
   i. Prevalence rates 82
   ii. PMS by health status 82
   iii. PMS by SCQ 82
   iv. PMS by GHQ 83
   v. PMS by knowledge of menarche 83
   vi. PMS by acceptance of menarche 83
   vii. PMS by fatigue 83
   viii. PMS by anxiety 83
   ix. PMS by other symptoms 83

6. MIDLIFE ASSESSMENT: Internal locus of control
   i. Self-efficacy 84
   ii. Self-efficacy by menopausal status 84
   iii. Self-efficacy by SCQ 84
   iv. Self-efficacy by GHQ 84

   i. Introspection vs social perspectives 85
   iii. Interest in people by SCQ 85
   iv. Significance of others 85
   v. Indecisiveness by SCQ 85
   vi. Timidity/submission by GHQ 86
   vi. Social responsivity by SCQ 86

6.2. Midlife Assessment: Social Roles
   i. Confidantes 86
   ii. Social roles and menopausal status 86
iii. Paid employment and GHQ 87
iv. Paid employment by SCQ 87
v. Life satisfaction 87
vi. Life satisfaction by menopausal status 87
vii. Life satisfaction by anxiety by menopausal status 88
viii. Life satisfaction by hot flushes by menopausal status 88
ix. Life satisfaction: financial status 88

7. HORMONE REPLACEMENT THERAPY
i. HRT 89
ii. HRT by menopausal status 89
iii. HRT use by marital status 89
iv. HRT use by education level 89
v. HRT use by personal income level 89
vi. HRT use by health status 89
vii. HRT use by GHQ 90
viii. HRT use by SCQ 90
ix. HRT use by age 90
x. Summary 90

8. DISCUSSION
Review of methodology 92
Gender Bias 94
Conceptualisation 94
Review of Method 95
Demographics and Symptomatology 96
Health Status 99
Hormone Replacement Therapy 99
Mental Health 100
Internal Locus of Control 103
External Locus of Control

EPILOGUE

BIBLIOGRAPHY

APPENDIX 1
Definitions of Menopausal States.

APPENDIX 2
Hormones

APPENDIX 3
i. Confidentiality Statement
ii. Information and Instruction Sheet
iii. Consent Form

APPENDIX 4
General Health Questionnaire - 12

APPENDIX 5
Self-Concept Questionnaire

APPENDIX 6
Current Attitudes to Menopause 1997.
## LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM</td>
<td>Current Attitudes to Menopause</td>
</tr>
<tr>
<td>CHD</td>
<td>Coronary Heart Disease</td>
</tr>
<tr>
<td>DR</td>
<td>Direct Recall</td>
</tr>
<tr>
<td>E₁</td>
<td>Oestrone</td>
</tr>
<tr>
<td>E₂</td>
<td>Oestradiol</td>
</tr>
<tr>
<td>ERT</td>
<td>Estrogen Replacement Therapy</td>
</tr>
<tr>
<td>5HT</td>
<td>Serotonin</td>
</tr>
<tr>
<td>FSH</td>
<td>Follicle Stimulating Hormone</td>
</tr>
<tr>
<td>GHQ</td>
<td>General Health Questionnaire</td>
</tr>
<tr>
<td>GnRH</td>
<td>Gonadotrophic Releasing Hormone</td>
</tr>
<tr>
<td>HRT</td>
<td>Hormone Replacement Therapy</td>
</tr>
<tr>
<td>HWS</td>
<td>Healthy Women Study</td>
</tr>
<tr>
<td>IR</td>
<td>Indirect Recall</td>
</tr>
<tr>
<td>LH</td>
<td>Luteinising Hormone</td>
</tr>
<tr>
<td>LMP</td>
<td>Last Menstrual Period</td>
</tr>
<tr>
<td>LRCPFS</td>
<td>The lipid Research Clinics Program Follow-up Study</td>
</tr>
<tr>
<td>MAO</td>
<td>Monoamine Oxidase</td>
</tr>
<tr>
<td>MMSE</td>
<td>Mini-Mental Status Examination</td>
</tr>
<tr>
<td>MWHS</td>
<td>Massachusetts Women's Health Study</td>
</tr>
<tr>
<td>MWMHP</td>
<td>Melbourne Women's Midlife Health Project</td>
</tr>
<tr>
<td>OTC</td>
<td>Over-The-Counter</td>
</tr>
<tr>
<td>OWHS</td>
<td>Otago Women's Health Survey</td>
</tr>
<tr>
<td>pp.</td>
<td>pages</td>
</tr>
<tr>
<td>PDD</td>
<td>Premenstrual Dysphoric Disorder</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>PEPI</td>
<td>Postmenopausal Estrogen/Progestin Interventions Trial</td>
</tr>
<tr>
<td>PMS</td>
<td>Premenstrual Syndrome</td>
</tr>
<tr>
<td>PRT</td>
<td>Paragraph Recall Test</td>
</tr>
<tr>
<td>SCQ</td>
<td>Self-Concept Questionnaire</td>
</tr>
<tr>
<td>SRT</td>
<td>Selective Reminding Test</td>
</tr>
<tr>
<td>TMP</td>
<td>The Manitoba Project</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Demographic Frequencies.</td>
<td>58</td>
</tr>
<tr>
<td>Table 1a</td>
<td>Employment: Parity.</td>
<td>58</td>
</tr>
<tr>
<td>Table 2</td>
<td>Personal Income Level</td>
<td>59</td>
</tr>
<tr>
<td>Table 3</td>
<td>Status of Children</td>
<td>59</td>
</tr>
<tr>
<td>Table 4</td>
<td>Marital Status 1989 and 1997</td>
<td>59</td>
</tr>
<tr>
<td>Table 5</td>
<td>Age, Mental Health, Self esteem &amp; Employment in 1989. Responders/Non-responders.</td>
<td>60</td>
</tr>
<tr>
<td>Table 6</td>
<td>Menopausal Status Groups</td>
<td>60</td>
</tr>
<tr>
<td>Table 7</td>
<td>Menopausal Status, Age and Mental Health &amp; Self esteem.</td>
<td>61</td>
</tr>
<tr>
<td>Table 8</td>
<td>Mean Number of Menopausal Symptoms per Individual</td>
<td>61</td>
</tr>
<tr>
<td>Table 9</td>
<td>Prevalence Rate of Menopausal Symptoms</td>
<td>62</td>
</tr>
<tr>
<td>Table 10</td>
<td>Proportion of Each Symptom by Menopausal Status Group</td>
<td>62</td>
</tr>
<tr>
<td>Table 11</td>
<td>Proportion of Vasomotor/Non-vasomotor Symptoms</td>
<td>63</td>
</tr>
<tr>
<td>Table 12</td>
<td>Education Level: Symptom Number per Individual</td>
<td>66</td>
</tr>
<tr>
<td>Table 13</td>
<td>Demographics and Mental Health</td>
<td>68</td>
</tr>
<tr>
<td>Table 14</td>
<td>Education Level and Mental Health and Self esteem</td>
<td>70</td>
</tr>
<tr>
<td>Table 15</td>
<td>Comparison of Mental Health Status, 1989 &amp; 1997.</td>
<td>70</td>
</tr>
<tr>
<td>Table 16</td>
<td>Midlife Self-Assessment, Mental Health and Self esteem:</td>
<td>70</td>
</tr>
<tr>
<td>Table 17</td>
<td>Marital Harmony and Mental Health</td>
<td>72</td>
</tr>
<tr>
<td>Table 18</td>
<td>Health Characteristics: Frequency of GP Visits</td>
<td>73</td>
</tr>
<tr>
<td>Table 19</td>
<td>Emotion at Menopause (LMP)</td>
<td>76</td>
</tr>
<tr>
<td>Table 20</td>
<td>Menopausal Status and Change in Sexual Attractiveness</td>
<td>76</td>
</tr>
<tr>
<td>Table 21</td>
<td>Prevalence of Premenstrual Syndrome</td>
<td>82</td>
</tr>
<tr>
<td>Table 22</td>
<td>Menopausal Status and Social Roles</td>
<td>87</td>
</tr>
<tr>
<td>Table 23</td>
<td>Hormonal Changes at Perimenopause</td>
<td>118</td>
</tr>
</tbody>
</table>
1. MENOPAUSE TRANSITION.

1.1. Introduction.

Menopause is a significant event in the lives of midlife women. Overseas research in this area has been abundant, but very limited in New Zealand. Because there is a new openness about health needs with the changing structure and delivery of health care in New Zealand, this is an opportune time to consider the requirements of an increasingly large group of people, midlife women. To facilitate optimum care delivery, the needs of these women, as articulated by them, should be an important source of information in the decision-making of health professionals.

Previously research has been extensively focused on the bio-medical model. Interest has become increasingly more sociological in orientation in the last two decades, possibly because of the growing visibility of women as an economic force. In order to better understand what their expectations are, we should investigate their experiences.

Initially a review of past research can provide a basis for finding the proper direction for future work in caring for midlife women at a time when they may expect their lives to be altered by the physiological transition of menopause.

In order to be fully comprehensive of all disciplines of knowledge the following literature review is in eight parts.

1.2. Literature review.

The first part outlines the historical conceptualisation of menopause, classic and early modern.

The second part considers the subjective impact of the conceptual framing of menopause, ie. how traditional theories of the menopause transition affect women's own perceptions of it.

The third part is concerned with the social perception of menopause as it influences women, ie. the observation of menopause as it affects women but does not necessarily coincide with women's own experiences of it.

The fourth part considers the biomedical/clinical models used to examine the phenomenology of menopause.

The fifth part reviews different cultural perspectives of the menopause transition which determine the way women experience it.
The sixth part considers some of the psychological models of menopause.

The seventh part considers some comprehensive psychosocial models of menopause.

The eighth part describes arguments for an emerging holistic perspective of the menopause transition based on the actual experience of midlife women.

1.2.1. Conceptualisation of Menopause.

i. Historical perspectives.

The concept of an association between behavioural disturbance and reproductive function in women is an ancient one enshrined in the word "hysteria", derived from the Greek word *hustera* (uterus). A description of this disorder, attributed to displacement of the uterus, has been discovered on an Egyptian papyrus dating from 1900 BC (Ballinger, 1990). Hippocrates wrote of this condition as being exclusive to women, related to migration of the uterus, thus instigating the link between reproductive physiology and psychiatric disorder in women and antedating by two thousand years the early modern finding of the place of reproduction and sexuality in neurosis (Bromberg, 1959, p. 4).

Galen, an eminent physician of the ancient Roman world (Bromberg, op. cit.), described and named the four 'humours', yellow bile, black bile, phlegm, and blood, the natural balance of which was crucial to health. Excess of any one of these was called 'plethora' and an obvious sign of too much blood was women's menstruation, which if not 'discharged' would rise and flood the brain, impairing its function. This idea augured the later notion of competition between the brain and the uterus. From this, amenorrhoea, or "suppressed menstruation" [sic] was confused with menopause as the chief cause of women's illnesses (Formanek, 1990). During the course of the industrial revolution of the eighteenth and early nineteenth centuries, when greater margins of private wealth allowed the growth of intellectual pursuits, writing about menopause seems to have, almost without exception, elicited negative description (Bart and Grossman, 1977). Historians have observed that European physicians during that time of radical cultural change did not extend the effects of revolutionary social revitalisation to women's roles and clung to beliefs about menopause as a time when women "decayed" (Stearns, 1975, cited in Bart & Grossman 1977).
There was, however one very notable break with this tradition when, in 1703, John Freind, an English scholar, historian, mathematician and physician, published a book (in Latin) on menstruation. It was the first on the subject and, most importantly, differentiated between amenorrhoea and menopause. It also contained the revolutionary concept of menopause, not as an illness, but preserving the health of the older woman because nature had decreed that the menses should decrease with increasing age to conserve precious resources (Formanek, 1990).

Edward John Tilt (1857), an influential British gynaecologist and president of the Obstetrical Society of London, commented on "the evil effects of this time of life" stating that "nervous irritability, hysterical states and uncalled-for lowness of spirits" were common at this time. The Change of Life in Health and Disease. A Practical Treatise on the Nervous and other Affections Incidental to Women at the Decline of Life, (1857) was based on his case records of 500 women patients, describing many of them as "dizzy", "stupid" and "bewildered" and listing over 100 "diseases" that accompany menopause (Tilt, cited in Formanek, 1990, p.16), which he held to be due to ovarian involution.

On the other side of the Atlantic, Charles Meigs (1854), professor of midwifery and the diseases of women and children at Jefferson Medical College in Philadelphia made a statement that has reverberations in modern times - "women are clearly different from men; if we view the statue of Venus and compare it to that of Apollo, we note that she has a head almost too small for intellect but just big enough for love" (Formanek, op. cit.). The uterus of a woman, he believed, wielded enormous power over her whole constitution (Formanek, op. cit.), and he speculated "whether she was not made in order that it (i.e., the uterus) should be made, and whether it may not on occasion become a disturbing radiator in her economy" (Formanek, op. cit.). The idea that what was perceived as a malfunction of the reproductive system (a physical illness) was the cause of women's insanity was consistent with the previous and prevailing medical view (Formanek, 1990). In an earlier discourse, the Outlines of Lectures on The Nature, Causes and Treatment of Insanity, Morrison, a practising physician and teacher, typical of the era, identified various forms of psychological and emotional disturbance as inevitable features of menopause;

"The critical period of after life, or 'change of life', as it is commonly called, frequently leads to the development of insanity: and there does not appear to be much difficulty in accounting for this, because, certain important functions then cease, and the constitution is thereby always more or less deranged. Personal attractions, too, are gone by, although the desire of
pleasing remains undiminished: and the strong emotions of jealousy are not infrequently excited.” (Morrison, 1848, op. cit.).

Debates about the existence of an affective disorder directly related to menopause have a long history. More than 100 years ago Conklin described a variety of mood, behavioural and physical symptoms linked to the climacteric. Symptoms were "so variable and ill defined as to defeat the attempt to marshall them into order" but "There is scarcely an arrow in the armory of pain that is not unsheathed at this period" (1889).

The concept of 'involutional melancholia' was introduced by the psychoanalyst, Kraepelin, in 1906 to distinguish the disorders of midlife from manic-depressive illness (now bi-polar disorder). The definition encompassed symptoms of prominent agitation and hypochondriasis associated with delusions of sin, poverty and disgrace but was not exclusive to women. Kraepelin's classification depended on longitudinal outcome, implying that if there was no demonstrable recovery then any illness due to involution of the gonads would last till death (Schmidt and Rubinow, 1991). Kraepelin discarded the term in 1921, concluding that the apparent increase in cases after age 45 was, in reality, a continuation of prior incidence of affective disorder and not a separate (affective) entity (Ballinger, 1990).

Bleuler reinstated involutional melancholia as a diagnostic entity using cross-sectional 'symptomatology' rather than outcome. He postulated the separateness of the syndrome based on different symptoms, different age at onset of the index episode, different family history and different premorbid personality but observed that the symptoms were less severe in menopause-related involutional melancholia (Schmidt and Rubinow, 1991).

The notion of psychiatric instability associated with reproductive function continued to flourish in the description of pre-menstrual syndrome, post-natal depression and menopausal depression (Ballinger, 1990), the last of which continued to be labelled 'involutional melancholia' till it was finally omitted from the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) compiled by the influential American Psychiatric Association when it was revised in 1980. Nor is it still included in the World Health Organisation's International Classification of Diseases (ICD), having been deleted in the 1970's.

Folklore and fairytale share the function of expressing both the conscious and unconscious desires of ordinary people according to Bromberg, (1959). Remembered from childhood are the illustrations that accompany tales of witches. Almost without exception, these portrayed an older, if not elderly
female with the exaggeratedly pointed chin and whiskery face of woman lacking femininity: typically, the asexual crone, no longer possessing the capacity for giving birth. The following commentary is from Bromberg (1959). The 'bad' witch, an anti authoritarian, nonconformist person was seen as antisocial and perverse and, by extension, abnormal, evil, harmful and demonic, serving the Devil and his demons, according to Origen, writing in the third century of the Christian era. Satan's cohorts were responsible for disease, famine, unfruitfulness, corruption in the air and pestilence, and they were attracted by the (menstrual) blood and incense offered by their converts. The delusions of witches, denounced by the organised Church, were seen as demonic possession and in its expression (emotional instability, dissociation, obsessive/maladaptive behaviour) were some of the many symptoms that were later described as hysteria and neurosis. The parallel with mental illness is inescapable. Saint Augustine, bishop of Hippo, in his treatise De Civitate Dei (City of God) written in the fifth century, stated: "All diseases of Christians are to be ascribed to these demons." For those people whose physical existence belonged to a feudal master, and whose spiritual being was entrusted to the Church, the only freedom, that of fantasy, must have been an irresistible propulsion toward the prolific growth of folklore, fairytale and stories about witches. In 1484 a religious treatise, Malleus Maleficarum or The Witches' Hammer, produced by Fr. Henry Kramer and Fr. James Sprenger and authorised by papal bull, became the instrument which was to combat witchcraft -

"Throughout the whole volume, and indeed the whole of medieval demonology, runs the idea that women are closely allied to sin, the devil and witchcraft. The Church argued from the doctrine of primal sin that it was to the devil's advantage to encourage carnal pleasures. The female sex was a natural ally to concupiscence". Indeed the authors of Malleus Maleficarum later affirm; "All witchcraft comes from carnal lust, which is in women unsatiable." (1485).

According to the King James' Version of the Bible (Proverbs xxx, verses 15 & 16) there are four things that are never satisfied, the grave, the (thirsty) earth, fire, and "the barren womb." The Church's doctrine of primal sin warns that the temptation of Adam that culminated in expulsion from the Garden of Eden was incited by Satan in the form of the snake, and executed by Eve, using her sexual power. Together Satan and Eve were irresistible and their most formidable weapon was female lascivicy.

ii. Early Modern Perspectives: Socio-Cultural theories.

The social science of anthropology has been kinder to the older
woman than medical science, perhaps because some of its most influential exponents were women, among them Margaret Mead. In her autobiography, Blackberry Winter; My Earlier Years, she wrote of her own "postmenopausal zest" to describe her great energy in her midlife years (Mead, 1972, p. 65).

"Something very special sometimes happens to women when they know they will not have .... any more children. It can happen to women who have never married when they reach menopause. .... Suddenly their whole creativity is released .... they paint or write as never before or they throw themselves into academic work with enthusiasm, where before they had only half a mind to spare for it." (Margaret Mead, op. cit.).

Perhaps because the two disciplines are allied to some extent, there is a tendency for views of anthropologists and sociologists to run parallel. In the 'social role' school of menopause writing, feminist scholars have found some common ground with anthropology (Bart and Grossman, 1977).

Observations of increased status and greater social freedom and respect for women past menopause have been made among more 'primitive' peoples.

"A postmenopausal woman in Ulithi, Micronesia, may become a healer, and among the Bantu of South Africa only a woman who has reached menopause may perform certain high-status ceremonial rites." (Townsend and Carbone, 1980, p. 231).

Flint (1975), in a study of 483 Indian women of the Rajput caste, found very few women who had problems at menopause other than physiological menstrual cycle changes. The explanation for this phenomenon may lie in the positive change in social role following menopause.

"Having reached menopause, they may freely leave their veiled seclusion, visit and joke with men, and participate in social activities once denied them, because they are no longer considered to be 'contaminative.'" (Townsend and Carbone, op. cit.).

Crawford and Hooper, (1973) on completing a British study, tentatively concluded that at menopause role gain confers advantage over role loss, such as in the 'empty nest syndrome'; menopause is just one in a series of psychosocial role transition points for middle aged women, many of which are positive.

"The most striking feature of this study, .... is the lack of association of either of these psychosocial changes (marriage of a child, advent of a grandchild) to menopausal status or symptoms." (Greene, 1990, p.99).

A paper on an extensive survey of 448 Swiss women presented at the second Congress of the International College of Psychosomatic Medicine,
in Amsterdam in 1973, by Van Keep, found that the incidence of menopausal complaints varied inversely with functional and recreational activities (Van Keep and Kellerhals, 1974). These authors do refer to "anticipated climacteric," however, the implication is that the departure of children in the early climacteric, before menopause, may prematurely precipitate symptoms usually experienced later on. "This is the only (psychosocial) study to demonstrate any association between symptoms and the absence or departure of children from home." (Greene, p. 98). Conclusions reached substantiate the notion that the role of the menopausal woman is moulded by culture, as are sex and age-linked roles in general (Townsend and Carbone, 1980).

Helene Deutsch, a post-Freudian psychoanalyst, issued a warning to women in 1945, when she wrote that by pro-active investment in "feminine-loving" (as opposed to "masculine-aggressive") behaviour and earlier devotion to family, a woman may protect herself from the exigencies of the climacterium through these firmly established, satisfactory relationships. These substitute gratifications are the only ones that Deutsch considered to be available to older women, since prospects for personal achievement (beyond menopause) were poor and "resignation without compensation is often the only solution" if prior, preservative family structures had not been put in place (Deutsch, 1945). Deutsch saw little in life for older women other than retrogression and dependency.

Since then, Deutsch's notion that investment in motherliness is protective, has been rejected, and in fact, women who have interests apart from family are likely to navigate midlife more successfully (Levit, 1963 cited in Bart & Grossman, 1977. Bart, 1971).

Freud considered menopause to be a physical illness that terminated reproduction and gave it little attention, but Deutsch extended that definition by stating that it "remobilised the castration complex," with consequent "ego enfeeblement," (Deutsch, 1944). Her statement that; "The woman (in the climacterium) is mortified because she has to give up everything that she received at puberty" (Deutsch, 1944) may have provoked later claims that the social construction of menopause has been built on the parallels of gender biases prevalent in psychology with psychiatric models of menopause (Rostosky & Travis, 1996).

The tradition in Western societies of mainly European descent has been to link menopause with pathology and decline in not just health, but most of the former abilities to function as a woman (Notman 1979, Dennerstein, 1993). Since women's primary power and singular function was seen as reproductive, the termination of this power and function could only
herald the end of their life's dominant and central theme. When life expectancy was shorter this curtailment of function and purpose seemed a logical link (Notman, 1979). Since "Sexuality and reproduction are considered (to be) evidence of personal success and fulfilment " (Avis and McKinlay, 1990), absence of a raison d'être forces an awareness of the aging process as decremental and limiting.

Around the beginning of this century the human lifespan began to increase but related information about menopause is sparse; previously most women died before they reached middle age. Life expectancy in 1789 for a girl child at birth was thirty six and a half years; in 1850 it was forty and a half years, and in 1890, forty four and a half years. Since most deaths occurred in infancy or childhood, women born in 1789 who were able to survive till they were twenty years old could expect to live till they were to fifty six years (Shyrock, 1960, cited in Formanek,1990, p. 4). Because the projected life expectancy of women in the year 2000 is eighty two years (Beard, 1975), women can expect to spend one third of their adult lives beyond menopause and the ability to reproduce. In today's terms that is approximately thirty years (McKinlay et al, 1992).

iii. Recent Perspectives: Psychosocial theories.

The observations of clinicians, case studies, investigations of climacteric psychoses and gynaecological treatments were rejected as valid research paradigms by the psychoanalyst, Therese Benedek in a paper read in Chicago in 1948. Setting aside the bio-medical point of view, not because it was unimportant, but because it was of much less importance than a psychodynamic point of view, Benedek claimed that;

"The psychodynamic view, however, is different. Development is a process in which the internal physiological changes and the psychological processes stimulated by them are integrated (or responded to) in a way which enables the individual to master further, and anew, environmental stimulations. While adaptation also includes regressive phenomena, development (as the term is used here) means progressive adaptation." As an analyst, Benedek had already stated, in describing processes of the climacterium that;

"However characteristic of the climacterium these manifestations may be, they are dependent upon the previous history of the individual; they are motivated by trends which, woven into the personality of the mature woman, may be reactivated by the internal changes associated with that period" (1948) - meaning that the climacteric is an idiosyncratic process, modified and mediated by the individual's previous experience and innate
personality characteristics, but also bearing varying resemblance to the processes of other women at midlife. In essence, she considered it to be a highly subjective response to a general phenomenon.

The expectation that declining sexual function will always be "experienced as an irreparable blow to the ego." (Benedek, 1950) underlies the fear of menopause. Any perceived 'failure' of sexual functioning is negative in its expression as in the use of the phrase 'tears of a disappointed uterus' to describe normal menstrual flow, a colourful colloquial description in this writer's youth.

Benedek's proposition that "Pain is an integrative part of the psychosexual experience of woman." (1948), has not been supported, but demonstrates that over the passage of time there have been many clinical and cultural changes for women in general, and their definition by reproduction in particular has been partly recanted (Notman, 1979).

Perhaps one of the greatest spurs to progress has been an ongoing challenge to Deutsch's declaration that the essence of women's happiness and an integral part of their reproductive role is their "deeply rooted passivity and specific tendency to introversion." (Deutsch, 1944) with which Benedek concurred (1950). Deutsch draws similarities between puberty and menopause; at puberty the libido "thrusts forward" but at menopause it goes "into reverse." (Deutsch, 1950). By trying to retain all that is bestowed at puberty in the face of the ultimate devaluation of sexuality at menopause, a woman is inflicted with a "severe narcissistic blow" (Deutsch, 1950). The most revealing representation of Deutsch's attitude toward menopause is in her use of the descriptive phrase for it - "partial death" (Deutsch, 1950). This view was challenged by Harris who found the "similarities entirely lacking in empirical foundation." (1990).

In the context of the feminine lifespan the menopause transition has always been a significant event, comparable to menarche and pregnancy (Neugarten and colleagues, 1963). It has been viewed variously by society, influenced by clinicians, and by women themselves, sometimes in accord with the clinical view, but often not. Until the 1960s the bio-medical view prevailed, but the publication of a seminal paper by Neugarten, Wood, Kraine & Loomis in 1963, under the auspices of the Committee on Human Development (University of Chicago), made a radical break with tradition. By canvassing women themselves Neugarten and her colleagues were able to demonstrate that the use of medical models, including those with psychological orientation, did not give due weight to women's subjective experience of menopause within any known current Western cultural
context. Studies with psychological orientation are better described as having a psychiatric focus (Ballinger, 1975), biased because they almost invariably depended upon symptomatology and were derived from populations of women attending clinics, both gynaecological and psychiatric.

Humanistic psychologists have maintained that concern with psychopathology ignores the positive aspects of life (Dennerstein, 1993). Wellbeing should be measured as being a continuum with positive affect and negative affect as polar opposites. If only negative affect is investigated a biased outcome is assured since the opportunity to rate positive affect is not presented. This extrapolates to the utilisation of clinical versus non-clinical populations and invalidates findings dependent exclusively upon clinical samples which cannot therefore be generalised to the community. (Dennerstein et al, 1993).

iv. Menopause as disease: medicalisation.

Menopause was diagnosed by R. A. Wilson, a medically trained practitioner, in his (initially) influential book, Feminine Forever as a deficiency disease which should be treated with oestrogen therapy to prevent the onset of "a vapid, cowlike feeling called a 'negative state'. It is a strange endogenous misery .... the world appears as though through a grey veil, and they (midlife women) live as docile, harmless creatures missing most of life's values .... The menopausal woman is not normal; she suffers from a deficiency disease with serious sequelae and needs treatment." (1966). Wilson and his colleagues claimed that women needed "adequate oestrogen therapy from puberty to the grave." (1963). Clearly Wilson was much influenced by the fiscal policy of his employer, a pharmaceutical company.

The psychoanalyst, Lax (1982) theorised that psychological dimensions such as self-image and ego interests were seen to be a determining factor in the response of women to the climacteric, as an aspect of the object relations model of menopause which stated explicitly that depression is the "expectable climacteric reaction " (Harris, p. 73). Lax predicted that both self-image and self-esteem would be threatened during the climacteric. Notions of self-image, in a youth-worshipping culture, can react negatively to biological markers of aging, especially those which are inevitable, such as menopause. Self-esteem is partially regulated by culturally-reflected self-image, thus women whose sense of self-worth is based solely on the attributes of youth have a vulnerable self-object function. Cultivation of stable self-esteem reliant on other aspects of the self help women to negotiate the "physiological difficulties" and "negative cultural pressures" of midlife (Harris, p. 75).
Wilson is frequently held to have initiated the medicalisation of menopause, but he was merely another signpost in the long history of negativity associated with menopause. When the sex steroids were 'discovered' in the 1920s the idea that they could have therapeutic use must have quickly followed. As a consequence of the alliance between therapy and its production costs Wilson's book can be construed as being mostly driven by pecuniary interest.

Lax's now controversial view of menopause as a culturally-reflected threat to self-image and self-esteem may offer some insight to the research themes of this decade and it helped form a hypothesis for this survey.

1.2.2. Subjective acceptance of negative menopause framing.

Women's lives appear to have become much less circumscribed by societal expectations of their reproductive functions, formerly seen as their only means to fulfilment (Notman, 1979). Much apprehension about menopause still persists in some Western societies, perpetuated by a lack of freely available access to accurate information to counteract historical myths, and the dissemination of much misinformation. Popular print and broadcast media provide an increasing amount of inaccurate information about menopause which is often "confusing, incomplete or just wrong" (Maslow, 1994). Women often have difficulty assimilating misleading information and thus applying it to themselves. Frequently professional advice seems equally bewildering and inappropriate and - "The implications for women's present and future health and quality of life are dependent on the best possible grasp of knowledge about the menopause transition " (Maslow, 1994). In the last decade increasing debate over the efficacy of Hormone Replacement Therapy (HRT) and its possible side effects have galvanised interest in menopause. The strong movement in America toward health research focused on women has given additional impetus (Romans, 1998). The emotional and gender issues inherent in the former mythology of menopause have politicised and polarised viewpoints, obscuring rationality and subverting women's choices (Coney, 1994). The use of the word 'replacement' implies that something is missing, or has been lost, or in Wilson's terms, a morbid "deficiency" has occurred (see above, p. 10). There has been a World Health Organisation suggestion that the acronym HRT be replaced by HT, or Hormone Treatment, (Prof. Romans, personal communication): the word 'therapy' implies there is serious morbidity inherent in whatever is being treated.
Probably nothing has personalised menopause for women as much as the public discussion of HRT and the 'medicalisation of menopause,' as if this latter was, in fact, a new phenomenon (Dennerstein et al, 1994. Coney, 1994). Reinforcement in the form of medical studies which gather innumerable symptoms in order to better define the menopause syndrome are increasing (Perz, 1997).

"A review of the research literature over the last 25 years identified over 57 symptoms attributed to menopause covering every bodily system: vasomotor, cardiovascular, metabolic, sensory, digestive, skeletal, muscular, glandular and nervous systems." (Perz, 1997).

This reinforces earlier reviews; thus Greene had already found "at least 45 symptoms had been attributed to the climacteric by some writers at some time" (1976). Nathanson and Lorenz in 1982, (cited in Cooke, 1985) "argued that the number of symptoms associated with the climacteric is 'legion'."

There is little agreement about which symptoms are specific to menopause since by far the greater proportion of symptoms listed can, and do occur at other times in the lives of both men and women, nor are they necessarily associated with pathology. Major difficulties are encountered in separating signs of falling hormone levels and inevitable aging processes. Theorists have therefore concluded that hot flushes, atrophic vaginitis and osteoporosis, are caused by the changing hormonal environment of the climacteric, or more precisely declining oestrogen levels, and other somatic and psychological symptoms are the result of historical, cultural, and stress factors and aging, (Rakoff, 1975; Dewhurst, 1976; Bart & Perlmutter, 1981, cited in Gannon, p. 192).

Inherent in this proliferation of studies with ever-increasing emphasis on morbidity, is the risk of the self-fulfilling prophecy, the expectations that come to determine the reality that society accepts (Matthews, 1992). Many studies of the last two decades claim the "predictive value" of compiling symptom lists (Perz, 1997) by developing "Model(s) of Symptomatology" using factor analysis and assigning morbidity by using clinically diagnostic terminology.

The search for psychological symptomatology has been comprehensive in research other than the medical paradigm as is implied in Cooke's proposed hypotheses to evaluate the influence of psychosocial variables on psychological disturbance during the climacteric. The terminology continues to be both pathologising and negative;

"vulnerability hypothesis - (social factors increase the level of symptoms in the presence of life events, but not in their absence),
independent causes hypothesis - (social factors increase the level of symptoms irrespective of whether life events occur or not) and synergy hypothesis - (concatenation of poor social support and life events disproportionately increase symptoms)." (Cooke, 1985).

Menopause symptom lists are not new, one of the earliest being the Blatt Menopausal Index (BMI) compiled in 1953 (Blatt, Weisbader & Kupperman) based on clinical experience, comprising 11 symptoms thought to be the most important in the menopause syndrome (Cooke, 1985).

"It is commonly assumed that, because menopause is a physiologically observable or measurable event in humans, the signs or symptoms surrounding this event are also ubiquitous in the human female." (Avis et al, 1993). This tautology claims that if a condition can be quantified by virtue of its visibility then it must exist, and if it exists then it can be quantified no matter how difficult it is to observe. (This theory is akin to John Stuart Mill's belief that an entity can be created even if it does not exist simply by applying a name to it.)

Recall of symptoms is vulnerable to stereotypical influences because time-lapse can lead to substitution of beliefs about symptoms that interfere with memories of actual experience (Avis et al, 1993).

The ultimate effect of so much insistence on morbidity, together with some lingering mythology, has coloured the attitudes to menopause of contemporary midlife women (Maslow, 1994). If midlife women see menopause as a milestone in their lives the expectations are that their quality of life will change in ways which may not be within their ability to fully control (Matthews, 1992). What is not clear is how the complexity of the interactions between environmental, behavioural and biological factors will determine that quality of life (Woods, 1994).

1.2.3. Influence of social perceptions of menopause.

i. Concurrence of menopause concepts in society.

Historical conceptualisation influences the cultural perception of menopause. Myths persist despite the enlightenment of scientific progress. Myths portray archetypes which are the forerunners of modern stereotypes (Jung, 1928), from particularised symbol to the generalised idea or form (in the Platonic sense); a substratum on which to build a comforting familiarity which strongly resists new knowledge. Myths have an apparent objective reality but can they withstand the rigorous inductive analysis of scientific method? (Brown, 1961, p.44). As a psychoanalytically trained psychiatrist and revisionist Nadelson described the effects of rapid social change in 1979: her
views can be reiterated in 1998 (Nadelson et al, 1994). For midlife women, the traditional values they internalised in their youth may need redefining or even rejecting, because the implicit limits set by those traditional values have been breached and new value structures are needed to develop and guide each individual. Cultural dissonance between the values of the 1990s and those which were prevalent half a century ago creates uncertainty (Nadelson et al, 1991). Nadelson and colleagues (1979) postulate that there has been a change in women's roles without a corresponding shift in the role definitions of men (though the extent of this is disputed). They predict that, if coupledom remains the ideal, it is unlikely that previous patterns can continue without some kind of evolutionary process with regard to roles and relationships (Nadelson, 1979). The social milieu of midlife women may be confusing at a time when expectations about the effects of endocrine changes may cause coping mechanisms to be tested. In accordance with the theories of Benedek (1950) and Notman (1979, 1984), response to midlife issues seems to be a function of personality and prior life patterns (McKinlay, 1992). Often young women's identity and autonomy issues are only partially resolved in the early adulthood sequence postulated by Erikson (1968), before motherhood begins. Not infrequently these issues return at menopause, out of sequence, because generativity (reproduction) has interrupted the definitive process of characterisation of the individual. Finally, at menopause the development of autonomy, identity and intimacy as defined by Erikson, can be completed (Notman, 1979). But this resolution process for women may have important implications for others in their private and public milieux. If consistent with stereotypical gender patterns, women's internal attribution tendencies can lead them to expectations that an improved self-image will jeopardise their attachments (Phillips, 1990, p. 288). A previously stable relationship may not survive an unprecedented change in one partner if the unconscious identity needs of the other are no longer mirrored. A woman's midlife striving towards (personal) separation and internal conflict resolution often permits a differentiation and integration of self that was formerly impossible. Following such changes she may actually be less suitable and less willing to be as accepting and/or emotionally available to a partner as before (Phillips, p. 290). Nadelson and colleagues propose that successful adaptation to midlife requires the aggregation of "the integrative character of the ego; the nature of interpersonal relationships; the sense of continuing usefulness; and the breadth of outside interests." (1979). When the adult dimensions of the feminine self become willingly integrated, individuation is accomplished, redefinition is possible and self-acceptance can be validated by significant others; women can be "less tyrannised by inner

ii. 男人对女性更年期的感知

Phillips指出，中年男性也对伴有更年期的假定的抑郁和/或情感不稳定性感到恐惧（1990，p.282）。这几乎没有在实际研究或理论说明中得到足够的关注。这种贫乏可能反映了文化偏见，将更年期视为女性失去有用的阶段（Deutsch，1945）而忽视了任何可能的婚姻或社会功能障碍。可能缺乏一般兴趣和相应研究兴趣对于没有男性对应事件。其中隐含的是一个性别偏见的否认，一个相对的男性位置，这清楚地意味着衰老。传统上，男性临床医生对更年期的医学化可能掩盖了中年男性生活中的这一阶段（Phillips，ibid）。也许这种故意的无知，这有害于男性的健康，很快就会改变。

然而，一些形式的更年期在注意中出现是基于前者的理论；Meigs (1854)指出了更年期的变化是她生殖系统的改变。一致地，这个假设，男性对女性的疯狂的恐惧，相信这是由于女性生殖器官的障碍，是一个强有力的动机对干预（Formanek，p.16）预示着当代“医学化”理论（Coney, 1994）。但现代面临的问题在中年男性形式的更年期是
said to be ubiquitous and may be contemporaneous with a partner's climacteric (Farrell and Rosenberg, 1981, cited in Phillips, 1990, p. 284). Men may see career possibilities and advancement opportunities shrinking. Certainly men's midlife bodily changes are less obvious and have received less public attention because men are still perceived as the norm and women are seen as deviant. The attainment of independence by children is seen as a gift to women, giving them the luxury of space, time and freedom from obligations, denied to men who may be conscious of a loss of personal power and prestige. At this time also many women can expand their career possibilities and increase their earning potential (Phillips, ibid). Their physiological changes are acknowledged. Women may, without concealment, respond to midlife by redefining themselves. Although men's and women's 'crises' may occur in parallel, recognition of these for women means that they can prepare for change, while less overt physical and mental alterations may prevent men from doing so. Lack of mutual sympathy generates conflict, and projects blame and feelings of abandonment in both sexes (Phillips, 1990, p. 285).

iii. The perspective of medical science.

The bio-medical model of menopause research has been the dominant paradigm, relying heavily on a 'menopause syndrome', a collection of 'symptoms' widely assumed by medical science and the general public, to be a consequence of the reduction in female hormone levels at midlife (Rostosky and Travis, 1996). In New Zealand this has been referred to by Sandra Coney, a nationally known journalist, as the "medicalisation of menopause" (1994), a term consistent in tone with other issues in women's health care such as the "medicalisation of childbirth." The strengthening objection to an essentially negative view is not confined to this country. It resonates in America:

"We propose that the widespread pejorative view of menopause is closely related to images of disease and deficiency portrayed in the published literature that has been sanctioned as scientific truth by virtue of publication in academic journals. ..... We contend that commonly held negative attitudes both heavily influence, and are influenced by the received knowledge that endorses (that is socially constructs) these negative views." (Rostosky and Travis, 1996).

To analyse publication trends between 1984 - 1994, in five mainstream medical journals (selected for their large circulation rates, thus likely to be widely read by general physicians and gynaecologists), Rostosky and Travis found that of 476 articles specific to menopause and thirty two additional articles on women and middle-age or aging, ninety six percent were
focused on biological or physiological topics. In 1984-1994 a relatively small proportion of all articles have focused specifically on menopause and the vast majority of these have been based on a biomedical model of menopause as a deficiency disease that will cause problems for most women (1996).

Utian, a distinguished researcher in the discipline of reproductive biology, proposes that only "an ovarian function, therapy-oriented" (1991b) paradigm of the climacteric is definitive; if not used, the "conclusions drawn are often unacceptable" (Utian, 1994). He correctly contends that the consensual definition of menopause arrived at during the International Menopause Conference in 1976, did not contain the word 'amenorrhoea' and consequently, wrongly standardised the essential temporal parameters (Utian, 1976). Utian defined the climacteric in terms of "the varied profile of symptoms .... caused by an interaction of three components; decreased ovarian activity with altered hormone profiles; sociocultural or environmental factors; and psychologic factors, [which allow for] the nature and incidence of symptomatology [to] vary in different educational, socioeconomic, ethnic and cultural groups," but these relationships needed to be defined further. Utian states unequivocally that not only do symptoms exist, but they are widely distributed over all groups. Lacking, in Utian's view, is "any clear indication as to whom may be considered candidates for any form of hormonal therapy" because no markers of declining ovarian function are given. Seven steps for required scientific scrutiny to confirm the climacteric as a "potential endocrinopathy" indicate "disease expression" as the fifth step. The argument given, that women with artificial menopause should not be compared with those undergoing natural menopause in examining health-related outcomes, is, however, valid. (See definition of Hysterectomy, APPENDIX 1).

These inferences all derive from a search for pathology and samples are drawn from clinical populations.


Ballinger, in 1976, investigated a clinical sample of 114 women identified as possible psychiatric cases, matching them with normal controls. Observed abnormalities were assessed in relation to menopausal status. No evidence of any specific combination of signs and symptoms associated with cessation of menses emerged, though in comparison to the control group there was more likely to have been previous psychiatric illnesses and more frequent contact with general practitioners among the possible psychiatric cases. Ballinger has hypothesised that women who develop psychiatric
symptoms at menopause appear to belong to a vulnerable population who are likely to develop symptoms in relation to stress.

Continuing the debate about the association between mental illness and menopause, Ballinger asserts her view that if there is a risk of psychiatric morbidity, it is in the five years that precede menopause, and risk factors are not physiological changes but sociological and family concerns (1990). This thesis is, in part, based upon finding no response to oestrogen therapy in these women, but some success in treating their anxiety and depression with antidepressants.

Psychological disorders of the climacteric have been investigated using sex steroids with varying results. Montgomery et al (1987) in a double blind trial using oestradiol and oestradiol/testosterone implants with a placebo control group, assessed midlife women, finding that women in both active treatment conditions improved on a self-rated scale of distress, on anxiety, and on depression. An important finding was that postmenopausal, but not perimenopausal women, improved after placebo; but at four months there was no significant difference in the scores of all three treatment groups, suggesting that plasma hormone levels from the implants had begun to decline. The sample population was drawn from specialist menopause clinics and these women were referred for existing problems, but the control group also were referred (to a gynaecology clinic) suggesting that they too had troublesome (physical) symptoms. Control groups should be randomly selected and matched from a general population to ensure a valid comparison. Final conclusions were that psychological symptoms eventually improve irrespective of treatment, ie. that they are self-limiting, though the initial response to active treatment was more rapid, which may have implications for the use of HRT in perimenopausal women suffering depressive symptomatology. This argument follows Kraepelin's reassessment in 1921 of his own prior conclusions (see above, p. 4). But the basis for Ballinger's contention that anxiety and depression in the perimenopause do not respond to oestrogen therapy, whereas some cases do respond to antidepressants (1990) contradicts Montgomery and colleagues' statement that falling oestrogen levels may lead to low central nervous system neurotransmitter activity, either by reducing available tryptophan for serotonin synthesis or by reducing dopamine receptor sensitivity (1987). Whichever hypothesis is supported "all modification of neurotransmission, at whatever level, produces a cascade of reactions in other known systems." (Lemoine, 1996).

There is a disparity between the psychiatric view of the menopausal woman and the gynaecological view which could be related simply to clinical
practice; psychiatrists see many women who have psychiatric disorders, only a few of whom are menopausal, while gynaecologists see many menopausal women of whom a large number present with psychiatric symptoms.

There are studies that suggest that oestrogen does have an effect on women's feelings of wellbeing. Sherwin confirms that mood covaries with circulating oestradiol (E2) levels in normal, generally healthy, non-depressed women (1988). She describes more positive moods in a long-term oestrogen treatment group than in an untreated control group. It was also clear that women felt better when E2 levels were at their highest, indicating a dose-response effect. Conventional doses of oestrogen may enhance mood in healthy women but appear therapeutically ineffective in mood disturbances of clinical magnitude. Klaiber and colleagues (1976) found that pharmacological doses of exogenous oestrogen may cause clinical remission in women with severe depression. It also seems helpful in postnatal depression, a condition which is comparable to menopause by having identifiable decreases in levels of endogenous oestrogen (Gregoire et al, 1996). Sherwin called for further rigorous investigation of this dose-response relationship (1988).

Ottowitz and Halbreich cautiously propose that oestrogen reduces the deterioration of wellbeing and cognition in otherwise healthy postmenopausal women (1995). Halbreich et al, had previously described the vulnerability to affective disorders that declining oestrogen levels may produce in postmenopausal women in terms of decreased serotonergic activity; they conjecture possible enhancement of the efficacy of serotonergic antidepressants by complementary oestrogen therapy which augments cortisol and prolactin response in postmenopausal women (1994).

v. Psychological investigations among community populations.

Recognising that the pathology/deficiency paradigm gave a false impression of the actual experiences of the climacteric, a number of studies based on populations randomly selected from members of the community have attempted to describe women's experience at midlife.

Ballinger had screened a sample of 539 women aged forty to fifty five years, by postal survey using a sixty-item version of the GHQ (1975). This sample was drawn from the lists of six general practitioners working from the same premises, to assess the incidence of psychiatric illness due, not solely to change in endocrine function, but to life events. A brief questionnaire about menstrual periods and family situation was included. The study was driven in part by prior inconclusive evidence for the efficacy of oestrogen treatment of psychiatric symptoms in menopausal women. Aiming to detect recent depressive and neurotic illnesses and relate them to menstrual changes and
the life events which are possible factors in the production of those illnesses, Ballinger concluded that;

"There was evidence of an increase in psychiatric morbidity occurring before the menopause and lasting for about one year after menstrual periods had ended. Vasomotor symptoms increased dramatically when periods stopped and persisted up to five years after the menopause." (1975).

The study clearly distinguished between the relation of vasomotor symptoms and the relation of psychiatric symptoms to menopause, "Both [having] a clear relation to the menopause but not the same relation." The distinction appears to be temporal, in that vasomotor problems can be directly linked to a menopause time-frame, but psychiatric symptoms cannot. Two major conclusions were that premenopausal women should be targeted when investigating psychiatric morbidity and changes due to approaching menopause and that there is an association of environmental factors, particularly related to children, with psychiatric morbidity at this time of life (1975).

Ballinger's work indicates that the association of mental illness to menopause should be scrutinised by separating the phases of the climacteric, but her classification of menopausal status differed from that which is now clinically recognised: women with regular periods were premenopausal and women who had had no menstrual periods for three to twelve months were menopausal: postmenopausal women were divided into two groups, up to five years after menopause and six or more years after menopause (see APPENDIX 1 for current international definitions of the phases of menopausal status). Premenopausal women seem to be at greater risk as they approach perimenopause: environmental factors, particularly in relation to children, appear to be associated with increased psychiatric morbidity at this time of life (Ballinger, 1975).

One British survey failed to establish any direct relationship between menopausal status and symptoms such as insomnia, fatigue and depression (McKinlay and Jeffreys, 1974). But in another, Dunnell and Cartwright (1972) found that complaints of 'nerves,' depression, irritability and headache were more common in women under forty-five years of age than in those over forty-five and complaints of sleeplessness, aches and pains increased steadily with age with no peak at the time of natural menopause. Bungay et al, in a population-based survey of 1120 women aged thirty to sixty-four years noted a premenopausal peak in "minor mental symptoms" just before the mean age of menopause (1980).
"Thus the general population surveys indicate no major effect of the menopause on a variety of common psychiatric symptoms. If anything, women in the postmenopausal years show less evidence of psychiatric disturbance than younger women." (Ballinger, 1990).

The prevailing, popular social theory of the domino effect dictates that somatic symptoms result in mood changes. Hot flushes at night may diminish sleep or sleep quality; during the daytime the resulting minor psychological disturbances can be misdiagnosed as an anxiety disorder or mild affective disorder. Corresponding with this, disturbance to sexual function and/or pain on intercourse (dyspareunia) caused by vaginal dryness may result in some marital disharmony (Dennerstein et al, 1994). Taken singly or collectively, physical symptoms can be misconstrued as an affective disorder.

vi. Sexuality and menopause.

Many lists of menopause symptoms include loss of libido, or decreased sexual drive (Dennerstein et al, 1994). This is probably the most difficult symptom to assess because frequency of intercourse is often co-determined by a partner whose sexual interest may bear no temporal or habitual relationship to the menopausal subject (Ballinger, 1990). This factor is illustrated in a report from Kinsey (1953) showing that frequency of intercourse in single women remains steady until fifty five years of age and then declines (possibly a social effect), while there is a steady decline in the frequency of sexual intercourse from the second decade onwards with increasing age in married women. It has been suggested that sexual drive increases at the time of menopause because there is no longer a fear of pregnancy (Masters and Johnson, 1966), but this has not been supported by later studies (Hallstrom, 1977; Pfeiffer et al., 1972; Priest and Crisp, 1972, cited in Ballinger, 1990) which suggest a significant fall in sexual interest by women at the time of menopause. But contemporary studies of men's aging suggest that women's and men's age-related libidos rarely coincide, and that by the time a woman has reached menopause the libido of her similarly aged partner has diminished permanently, while her own may increase peaking at 60 years with very little further decline till death. Obviously opportunity of expression is an important factor in research into libido.

Perhaps the contemporary association of youthful vigour with a strong sexual drive prejudices the answers given by subjects of both sexes who are unwilling to acknowledge their aging. It is also an intensely private domain that is not freely or unselfconsciously discussed thus hindering investigative techniques.
Hallstrom's cross-sectional study (1977) of 800 Swedish women aged thirty-eight, forty-six, fifty and fifty-four years randomly selected from the general population had a sufficient number of subjects to permit assessment of menopausal status and aging separately. It was found that there was a significant decline in sexual interest, capacity for orgasm and coital frequency in the postmenopausal years independent of increasing age. Hallstrom himself suggested that where marital relationship is poor, and the husband is perceived as unsupportive, women may use menopause as a reason for avoiding sexual contact, thus frequency of intercourse is not a good indicator of libido, and the clear association between reduced sexual interest and menopausal status is an artefact related to this avoidance (1977). Van Keep and Kellerhals have shown a significant association between social factors such as marital status, educational level and social class with sexual behaviour in midlife women (1976).

There have been studies of women indicating that the male hormone testosterone can increase the libido of women (Sherwin and Gelfand, 1987: Sherwin, 1991), but since levels of androstenedione continue to be high in older women, secreted by the adrenal gland, and this can be peripherally aromatised to testosterone, it suggests no drop in libido need necessarily be associated with a change in female sex steroids. Estrone also is peripherally aromatised from androstenedione (see APPENDIX 1).

Endocrine studies of affective disorder have shown some unusual features of hormones other than the sex steroids at menopause. Control of cortisol secretion and the response of thyroid stimulating hormone to thyrotropin releasing hormone is disturbed (Calloway et al. 1984). Fluctuations in the circulating levels of prolactin, cortisol, TSH, and triiodothyronine have been found to be associated with menopausal status (Ballinger, 1987). Despite the obvious differences in the typical levels of endocrine functioning during the climacteric no profile of an endocrinopathy emerges, nor are the endocrine dysfunctions unequivocally associated with affective disorder (Ballinger, 1990).

1.2.4. Cultural Perspectives.

i. Sociology.

Criticism of 'menopause syndrome' as an entity that needs 'diagnosis' and 'treatment' has risen markedly since the early 1960's, peaking in the decade 1970-1980. The major challenge to the view of menopause as an illness has come from feminist scholars (Bart and Grossman, 1976), who offer
major alternative concepts. One of the theories proposed in Western societies postulates that midlife women exhibit this 'syndrome' as a behavioural response to sex-role conditioning, decreased status at this stage of life and a lack of role alternatives (Townsend and Carbone, 1980). Reviewing theories for sex differences in depression, Nolen-Hoeksmas writes:

"Even if a woman accepts the traditional female role gladly at one point in her life, chances are her role will change dramatically several times in her life. Each of these new phases in life demand major re-organisation and reorientations of time, effort, and values. Coupled with the stress of adjusting to new roles may be the loss of a particular gratification from a previous role." (1987).

If the traditional female role allows only one source of gratification, the family, then women can be subjected to conflicting expectations at the times of role change (eg. midlife). The patterns of change in role obligations are even more confusing if there are radical differences in the perceived value of roles. Consistent with society's valuation of the stereotypical female role may lead women to see themselves as having no role at all when family and reproductive power has gone (Nolen-Hoeksmas, 1987). The social role situations that cluster around the time of women's midlife predicate adjustments and adaptations that are unprecedented and difficult. Added to physiological changes which may be unsettling, situational demands may produce menopause 'symptoms'. Some health professionals recruit women into this 'syndrome' and reinforce them for it (Flint, 1975): it is a socially-modified position that midlife women assume because of the pathological construction of menopause. (Townsend and Carbone, 1980).

Classification of symptoms as a disease ignores the fact that there is no direct evidence that the alleged complaints are the result of psychobiological causes (Utian, 1979: McKinlay and Jefferys, 1974: Bart and Grossman, 1976). If there is at times justification for viewing the conditions medically, the syndromes (psychological and somatic) also represent social roles that define and maintain existing relationships of power (Flint, 1975). Differentiating between the organic changes due to reducing ovarian function to be defined as disease (eg., cardiovascular disease) and aging (eg., osteoporosis) produces a classification that is more a matter of individual values and cultural variation than a question of medical facts. Clearly some women will choose prophylactic treatment if it can be demonstrated that, for them, the medical benefits outweigh the risks (Utian, 1979). When symptoms are relatively amorphous and ambiguous they lend themselves more easily to a "false construction of clinical reality" (Kleinman, 1978 cited in Townsend and Carbone, 1980) by being organised into illness behaviour. The symptoms
of menopause are frequently non-specific (eg., headache, fatigue, indigestion) (Townsend, 1980): "illness behaviour" refers to "the way in which symptoms are conceived, evaluated, and acted upon by a person who recognises some pain, discomfort, or other sign of malfunction" (Mechanic and Volkart, 1961). Consequently the behaviour of the individual depends on how a particular culture defines 'malfunction' and by the expectations of that culture in the presence of that malfunction (Townsend and Carbone, 1980). Validation of this perspective of menopause as a negotiated sick role (ie. recognised malfunction) is difficult. It seems intuitively plausible, but "while clinicians cannot prove in any objective sense that a woman has menopause syndrome, social scientists cannot prove that she does not" (Townsend and Carbone, 1980). The concept of empirical proof is complex. It is based on the question of whether there is adequate evidence to satisfy the requirements that constitute proof. The evidence must not only be necessary but also sufficient; and be explanatory, not just descriptive. The evidence must also be not just confirmatory, but predictive; and preferably, it must be parsimonious (Hospers, 1970). Applying this, it becomes necessary to establish that; the syndrome co-varies with cultural role expectations and other socio-cultural factors; whether reliability of diagnosis is high or low; whether the biases and prejudices of the physician are evident in terms of gender, ethnicity and socio-economic status of the patient; and the suggestibility of both physician and patient should be tested. (Townsend, 1980). The last condition of proof, whether the evidence is predictive, can be assessed by reviewing further studies.

As an illustration of the "cultural construction of the menopause syndrome" Lock, Kaufert and Gilbert conducted in-depth interviews with Japanese physicians and women, asking them to describe the menopausal experience (1988). The mind/body dualism which has been a characteristic of Western medicine is alien to traditional Japanese thought, so that rather than symptoms being linked directly to a decline in oestrogen production, Japanese physicians describe them in relation to a destabilisation of the autonomic nervous system induced by fluctuations in oestrogen levels (Lock et al., 1988). They found that there was a strong belief among doctors that women could 'master' their symptoms and 'suppress' their feelings through an exertion of willpower. If mastery was more difficult for some than others it was explained not by differences in hormonal factors, but by the more vulnerable disposition with which some women are endowed at birth (Lock et al., 1988). There was also a moral dimension to diagnosis, since middle class, middle aged women were seen as particularly vulnerable by reason of having too
much free time on their hands. Lock proposes also a political dimension: the burden of a burgeoning aging population could be relieved if middle aged women did not rejoin the workforce but remained at home to care for aging relatives, thereby reducing the financial support of government (1986). Overall symptom reporting was low and the Western 'syndrome' was absent. Japanese women, aware of gender bias, become discouraged from reporting symptoms. The vasomotor symptom, the hot flush, was found to be an occasional rather than frequent accompaniment of menstrual change, and night sweats, relatively common in the West, were rare. The most convincing symptoms that the climacteric has arrived for Japanese women are somatic i.e., headache and stiff shoulders (for which clinical treatment is rarely sought). Japanese women associated the climacteric with aging as a gradual transition into the latter part of their life cycle and marked more by changes in eyesight and greying hair than menstrual changes and the cessation of menstruation. Women spoke of the climacteric transition as conceptual rather than 'real' or personal. Physicians also viewed the climacteric as part of the normal aging process so that the model was associative not causative (Lock et al, 1988). Possibly the best way to translate the Japanese word for climacteric (konenki) is the literal English 'change of life' with all the impersonal connotations which serve to distance it from women's experience.

Lock, Kaufert and Gilbert are cautious about extrapolating across cultures: "The assumption that menopause is a universal experience at any level - biological, psychological or social - should be subjected to serious questioning. Anthropologists have shown repeatedly that biology is not merely overlaid with cultural factors, but is created in a dialectical fashion with them" (1988).

They also suggest that since Western symptoms are all-important criteria in the advent of the climacteric and in Japan symptom incidence is not only low, but without much personal significance for women (and therefore unreported) that comparisons that do not recognise such differences in parameters will formulate invalid conclusions. If women's experiences are regarded as being culturally based, actual differences in biological processes may be masked. Making comparisons between societies on the assumption that sociocultural difference is the only difference ignores the influences that the sociocultural variables have on biology as well as lifestyle, eg. nutrition reduces the incidence of heart disease in Japan when compared to North America (Lock, 1994). There is also a comparatively high consumption of phytoestrogens (soy products) in Japan which may influence the experience of 'Western' symptoms. Nor is it valid to draw conclusions using a knowledge base that is divorced from the culture being investigated.
Kaufert later combined the data gleaned from her studies in Canada, Massachusetts and Japan in order to present a "Health and Social Profile of the Menopausal Woman" (1994). In outlining a comparison between the models used by social scientists and clinical or medical epidemiologists she was unable to elucidate the Japanese model other than to report that the use of aspirin by menopausal Japanese women was low (14%) compared to menopausal Canadian (Manitoba) women, (45%), and its use by menopausal women in Massachusetts was high, (63%). If symptoms are not a useful parameter for Japanese women as previously claimed (Lock, Kaufert and Gilbert, 1988) and the clinical paradigm inappropriate, the findings of a medical epidemiologist would reflect very different hypotheses from those conceived by a social scientist. If the symptoms that Japanese women do associate with their change of life are headache and shoulder stiffness, and the therapeutic effects of aspirin (analgesic and anti inflammatory) are the same in Japan as in the West, it might have been expected that despite the lack of medical intervention, aspirin use might have been higher in Japan. Looking at the cardiovascular interest of the Nurses Health Study (USA) and the Canadian propensity toward taking aspirin for chronic health conditions, notably arthritis, and transitory symptoms such as headache, reasons for aspirin use could well have been radically different, but still have worked as a form of primary prevention of cardiovascular disease in women. If as Kaufert claims, cross-societal studies that do not take cultural differences into account have very little value (1988), neither do single discipline studies (1994).

Western societies, with their emphasis on the accumulation of information and technological advance, have continued the thrust of biomedical models and moved beyond the idea of menopause as a physiological event to the pathological conditions widely regarded as a consequence of lack of oestrogen. The greater longevity of women in the technologically advanced societies remains an enigma, but clearly menopause does not appear to be an obvious disadvantage. Declining oestrogen levels are but one factor in the complexities of life after menopause. They are difficult to separate from aging and targeting them for 'medicalisation' is probably an inappropriate use of cause and effect which in no way explains the complicated biological/sociological interaction occurring in the lives of the world's middle aged and older women: especially those who live to advanced years and enjoy good health.

However investigations of some of the problems encountered in women's health in the postmenopausal years cannot be ignored.
1.2.5. Epidemiology of Menopause and the Climacteric.

The focus on menopause symptoms has been the springboard for investigations into conditions that have an increasing incidence and are indisputably pathological states, such as coronary heart disease (CHD), (Barrett-Connor and Bush, 1989) and osteoporosis (Nilas and Christiansen, 1987:: Christiansen, 1994). The clinical paradigm often utilises HRT with a placebo control and compares premenopausal status with postmenopausal status, measuring such variables as insulin sensitivity/glucose disposal (Whitehead, Godsland, Stevenson, Crook and Collins,1994: Reaven, 1993), lipid levels (Whitehead, 1994: Sherwin, Gelfand, Schucher and Gabor, 1987), serum angiotensin-coverting-enzyme activity (Proudler et al, 1995), and the metabolism and deposition of calcium in skeletal tissue (Jensen-Munk, Nielsen and Obel et al. 1988). Disputation arising from the results of cross sectional clinical studies has initiated longitudinal studies using very large general populations of women covering many aspects of the climacteric, with mostly psychosocial variables, but including the use of HRT as a parameter of interest.

i. The Framingham (Heart) Study.

A prospective cohort study, set up in 1947 by the US. Federal government, followed a representative sample of 5,209 adult residents of Framingham, Massachusetts (USA). The objective has been to study the epidemiology of heart diseases --- to learn the circumstances under which they arise, evolve and terminate fatally in the general population. Conditions pertinent to CHD which have been observed included the climacteric, and menopause. The most significant finding was an increase of 50% in cardiovascular disease but not mortality, in postmenopausal women over fifty years, using replacement oestrogen who smoked cigarettes (Wilson, Garrison and Castelli, 1985). However a second report from Framingham, using a different definition of oestrogen exposure and excluding angina pectoris as an endpoint found a nearly 50% reduction in the risk of fatal CHD among fifty to sixty year old women using oestrogen (Eaker and Castelli,1987).

ii. The Nurses' Health Study (USA, 1976).

This study followed 32,317 postmenopausal women who were registered nurses in 1976, for ten years, showed a 50% reduction in cardiovascular disease in ever users and a 70% reduction in current users of
oestrogen replacement (Birkenfeld and Kase, 1991). Consideration must be
given to selection bias; later papers report that 2% of the sample were African-
American; the nursing association which provided the sampling for the study
was a relatively elite institution situating these nurses as members of the
middle to upper reaches of the white American middle classes. Clearly,
results from the Nurses’ Health Study provide a fair indication of the health
risks faced by women with good access to health care, exercise programs,
healthy diets and the affluence necessary to prolong life. Generalisations
beyond this social context should be cautious (Kaufert, 1994)]

iii. The Lipid Research Clinics Program Follow-up Study.

This was a clinical investigation of a cohort of 2,270 white women,
and was initiated (baseline data established) in ten North American clinics
between 1972 and 1976. These women were aged forty to sixty-nine, and after
eight and a half years, showed a significantly lower death rate from all causes
in oestrogen users as opposed to non-users. Diseases of interest were
ischaemic heart disease, arteriosclerosis and cerebrovascular disease (Bush et
al. 1987).

iv. The Postmenopausal Estrogen/Progestin Interventions (PEPI) Trial (USA).

This trial examined the effects of adding a progestin to oestrogen
therapy in postmenopausal women to gauge any diminishment of
cardioprotection (Barrett-Connor et al, 1990). Some final conclusions are that
the addition of progestins does not appear to attenuate the cardioprotective
effects of postmenopausal oestrogen therapy (Grodstein et al. 1996).

1.2.6. Psychological Investigations.

i. The Healthy Women Study (HWS).

Costello et al, (1991) questioned 541 premenopausal women in
Pennsylvania, USA, on their attitudes toward menopause in general, and
their personal expectations of it. Almost all women (94%) believed that if
they did not expect to be troubled by menopause they would do well. However there were some negative expectations; 80% thought depression in
general was likely at menopause and 55% considered themselves susceptible
to this; 75% thought hot flushes were likely and 70% thought themselves susceptible to these, and 68% expected to be irritable at menopause (Matthews,
The HWS also found evidence that expectations about menopause experience were qualitatively influential. As a longitudinal study, assessment of individual postmenopausal experience could be compared with the same individual's premenopausal expectations. Findings were that; "... it does appear that women's expectations about aspects of the menopause affect their psychological experience during the menopause." (Matthews, 1992).

The HWS also examined the relationship between mental and physical health and the demographics of midlife yielded predictive information on the affect of midlife women. Possibly, the most feared symptom of menopause is depression (Mitchell & Helson, 1990). It is also thought to be the symptom most likely to occur, and as such is a widely accepted concomitant of menopause (Kaufert & Gilbert, 1986). The protection achievable by adherence to domesticity and child-bearing investment, much encouraged by Deutsch, Benedek and innumerable others, proved not to contribute to mental health in midlife in the HWS (Costello, 1991). Further, Costello found that contrary to traditional thinking, neither having children nor childlessness made a difference to the likelihood of significant depression in midlife. In the study women who did appear to be highly protected against depression fell into three groups; women who had remained stably married, with or without children (4.5% depressed), widows without partners (4.7% depressed) and women who had never married (2.8% depressed).

"Stability, whether in marriage or out of it, was the chief characteristic distinguishing low risk from high risk groups." (Costello, 1991).

Researchers have steadfastly found it plausible to implicate menopause as a causal factor in psychotropic drug use. Questioning the odds on women's use of psychotropic drugs Kaufert & Gilbert investigated whether an increase is dependent on the cessation of menstruation. This inaccurate depiction of women's middle age has become a stereotype - closely related to the discontented, hypochondriac housewife on valium. The conjectural portrait of the menopausal woman is very similar - depressed, unable to cope with emotional crises, subject to vague complaints and gynaecological disorders - a powerful and evocative caricature which reflects popular conceptions and widely held beliefs about women and their roles (Kaufert & Gilbert, 1986).

Generally there has been consensus in menopause-related affective disorder research that any noticeable disturbance is minor, tends to occur in the perimenopause and is not a de novo affective disorder. However, Schmidt and Rubinow maintain that these findings cannot yet be sustained because of methodological problems in previous research (1991). Alterations
of mood and behaviour associated with cessation of female reproductive function have been poorly characterised and dismissed because of:

"restrictive presuppositions about the characteristics of the affective or behavioural disturbance (e.g., conceptualised as endogenomorphosis depression): confusion of affective symptoms with affective syndromes: failure to obtain adequate biologic evidence of ovarian dysfunction in defining climacteric or menopausal subjects: confusion of causation with association." (Schmidt & Rubinow, 1991).

By employing advances in reproductive endocrinology, using prospective longitudinal monitoring of mood change in the context of the natural course of the climacteric, the possibility of methodological precision is enhanced. There may be climacteric/menopause related mood disorders which are affective syndromes other than major depressive disorders, that have so far been disguised by selective interpretation of data. Neurobiology of menopause may clarify the understanding of mood and behavioural changes associated with declining ovarian function (Schmidt and Rubinow, 1991). There is some speculation that although the beneficial effect of oestrogen therapy on affective disorder in midlife women is not conclusive, there is some effect that promotes feelings of wellbeing that could be produced by means of a separate therapeutic pathway (Nolen-Hoeksema, 1987).

ii. Cognitive Changes at Menopause.

More recently interest has turned to the other possible effects of oestrogen on the CNS. Focus has turned toward clarifying the cognitive changes that accompany menopause. Differentiating the biological from the psychological problems that may be associated with menopause could define rational indications for HRT (Ottowitz and Halbreich, 1996). Instruments commonly used in testing are memory scales (Wechsler), direct recall (DR) and immediate recall (IR); visual reproduction, associative learning and digit span (Phillips and Sherwin, 1992): Selective Reminding Test (SRT) and Paragraph Recall Test (PRT) (Kampen and Sherwin, 1994) and Mini-Mental Status Examination (MMSE) (Barrett-Connor and Kritz-Silverstein, 1993). Studies have included participants with probable Alzheimer's dementia and ischaemic vascular dementia (Mortel and Meyer, 1994). The inclusion of healthy volunteers and postmenopausal women as controls, have given these studies greater validity.

"Current data suggest that ERT (oestrogen replacement therapy) may improve cognitive functioning or well-being in postmenopausal women" (Ottowitz and Halbreich, 1996).
Genazzani and colleagues state that; "sexual steroids exert a modulatory effect on the synthesis, release and metabolism of neuropeptides, neurotransmitters, and their receptors." (1996). They further report that during reproductive life this modulating effect takes place at the level of the hypothalamus to synthesise and release gonadotrophic releasing hormone (GnRH). In the limbic system the synergic action of these neuroactive transmitters regulates mood and behaviour. The neuroendocrine system is responsible for thermoregulation, appetite, satiety and regulates blood pressure. Sex steroids have a global effect on female wellbeing and quality of life through their ability to modulate neurotransmission (1996). This study claims also that the higher prevalence of Alzheimer's dementia (AD) in postmenopausal women than men can be treated by HRT which improves cognitive performance and short-term memory. (Oestrogen appears to have an anti inflammatory effect in AD). Oestrogens also improve dopaminergic tone, playing a protective role in the prevention of Parkinson's disease (Genazzani et al. 1996). Pearlstein, in a review of literature, concludes, 

"Estrogen has been shown to modulate serotonin and is reported to increase tritiated imipramine platelet binding in women, which is thought to increase serotonin presynaptic uptake. Tritiated imipramine binding is reported to be reduced in depression, and this is a possible mechanism by which estrogen may improve mood." (1995). However, in clinically depressed postmenopausal women, although oestrogen may augment anti-depressant action, it has little effect alone (Halbreich et al. 1994).

1.2.7. Psychosocial Studies.

i. Massachusetts Women's Health Study (MWHS).

McKinlay and colleagues initiated the Massachusetts Women's Health Study (USA). MWHS is a very large (>7,000 women) and comprehensive investigation of midlife women carried out under the auspices of the American Institutes for Behavioural Research. S. McKinlay has strongly criticised small clinical studies which she finds unrepresentative and methodologically flawed. She recommends large population based studies in order to more accurately depict women's midlife period (1973 & 1994).

MWHS is a prospective cohort study, initiated by S. and J. McKinlay, which generated data from a five year follow-up of 2570 randomly sampled women in Massachusetts who were aged forty-five to fifty-five years on
January 1, 1982. An initial baseline cross-sectional survey yielded a total of 8050 completed responses with an overall response rate of 77%. From this cross-sectional sample, a cohort of approximately 2570 women were identified, consisting of women who had menstruated in the preceding three months and who had not undergone removal of the uterus and/or ovaries. The prospective stage of the study of this cohort consisted of six telephone contacts at nine month intervals. Cohort selection was preferred because it spans menopause phases, by including women in a sufficient broad age range that some will be premenopause and some will be postmenopause. Prospective (cohort) design can identify a group of women to follow through menopause collecting data at defined intervals.

1) Problems of Methodology.

McKinlay (1994) recognised the limitations of designs chosen such that they cannot definitively identify cause and effect, although the temporal sequences observed in cohort studies can mimic cause and effect - especially if there are consistent biological or other mechanisms. These designs are not intrinsically able to separate efficiently cohort from secular effects. In order to do this studies must define two or more cohorts that are sufficiently different in age to be able to distinguish between these two effects. MWHS, by studying initially premenopausal women, included two other acknowledged major cohort effects. First these women were beyond, or in the later years of child bearing, when oral contraceptives became generally available (about 1965) and, therefore were exposed to no, or minimal use of these drugs. Second, the cohort was drawn from a community sample in which 39% were current cigarette smokers. Because smokers have an earlier natural menopause by a mean of one and a half to two years, and smokers are more likely to have less education, smokers, and thus less educated women, were differentially excluded from the cohort.

At the same time, during the five years of observation, the cohort was subject to secular increases and changes in HRT prescribing. The stated criterion defining menstrual status - having menstruated in the preceding three months - could include women who were perimenopausal, as well as women who were premenopausal and thus still menstruating regularly. It is already acknowledged that this perimenopausal state is one with different health characteristics (Ballinger, 1990) and related help-seeking behaviours, from the premenopausal state (Morse et al. 1994)). Menstrual status as a criterion also effectively excludes otherwise healthy women who have had a surgical menopause but retained at least one ovary. Realistically these women will undergo all of the postulated changes of the
menopause years except the (observable) cessation of menstruation. McKinlay, Brambilla and Posner found that nearly 10% of healthy women do not experience perimenopause but have an abrupt cessation of menses with few if any concurrent symptoms and/or significant life events (1992).

2) Menopausal status vs aging.

The persistent difficulties in separating aging from natural menopause which still plague menopause research, is a confounding factor in the MWHS. Aging in general must be differentiated from changes directly due to the decline in oestrogen production associated with natural menopause. In order to do this, prospective observation needs to include sufficient pre and postmenopausal data anchoring points to estimate reliably changes that occur before and after menopause, which are thus independent of oestrogen decline and its associated changes (S. McKinlay, 1994). Monitoring FSH and LH levels cannot accurately indicate menopausal status because the pulsatile secretion of these hormones causes rapid temporal fluctuations (see APPENDIX 1). Oestradiol levels can more accurately specify natural menopausal status, but may not be feasibly assessed in a very large study group.

McKinlay has identified three important issues in analysing menopause related data - reproductive versus chronological age, collinearity and complex confounding.

* Reproductive versus chronological age; given the wide range of age at natural (5% of women have reached natural menopause by 37 years of age) and surgical menopause, the resulting analysis can vary, obscuring important trends. Research continues to use chronological age as a surrogate for menopause or uses it in conjunction with menopausal status. McKinlay suggests one alternative may be to define a reproductive age scale using the last menstrual period (LMP), years ± LMP, for example, and adjust for chronological age at LMP if necessary.

* Collinearity; co-variant measures must be carefully selected to avoid highly correlated variables being included in the same model. If distributions are nonnormal these relationships may be masked or exacerbated. The example McKinlay chooses as illustrative of this is the high correlation between decline in E$_2$ (oestradiol) and increase in circulating FSH.; Changes in total E$_2$ are closely correlated with changes in E$_1$ (oestrone) and the percentage of free E$_2$; natural menopausal status (pre, peri, post) is highly correlated with E$_2$ levels. Any one of these variables may influence the apparent validity of another by extremes associated with nonnormal distributions.
* Complex confounding arises when menopause or an associated change is related to subsequent disease or surgical procedures - variables related to both events should be identified and analysed with care. The differences between surgical and natural menopause can predict the use of other surgical/medical procedures seemingly unrelated to menopause and each other. The strongest predictor of surgical menopause is prior, frequent interaction with medical care systems. This frequent contact means women are more likely to have disease diagnosed and treated. This is also a group of women who are more likely to use HRT on a long-term basis. It is essential that women with natural and surgical menopause be separated for analysis (Utian, 1994).

Using chronological age in association with menopausal status is misleading since women have hysterectomies for a great variety of reasons and possibly several years earlier than natural menopause so that the status of their ovarian function is not easily assessed.

Another example given by McKinlay is the relationship between smoking (current versus nonsmoker) and cardiovascular risk (or cardiovascular event). Smoking is the only significant factor causing an early natural menopause (Brambilla and McKinlay, 1989). It is also the most prominent risk factor in women for heart disease (Wenger, 1985). In investigating the relationship between cardiovascular risk/disease and menopause the inclusion of smoking as a covariate may be insufficient.

Because type or timing of menopause is closely related to factors which may influence disease risk or likelihood of surgical procedures, standard multivariate analysis procedures may not be optimal. Separate analyses defined by the confounding factors should be considered (1994).

As with any other study design and measurement in menopause, research studies should utilise a wide age range and large sample size to ensure separation of independent effects and be realistically representative. Very large sample populations can yield sub-samples for investigating under-represented populations such as diverse ethnic/racial groups (McKinlay, 1994).

**ii. The Manitoba Project: Women and their Health in the Middle years.**

(TMP).

Kaufert and colleagues examined issues related to the health and health behaviour of women aged forty to fifty-nine years in the province of Manitoba, Canada. There has been collaboration between TMP and MWHS, because, although the two studies were developed independently and received separate funding, they were later found to have both a parallel
methodology (a cross-sectional mail survey) and much similarity in the prime objective (an investigation of the impact of menopause on women in North America). There are differences; TMP has a broader age group, a smaller population and the questionnaire deals with a wider range of issues. An informal linkage was agreed upon because the degree of concurrence between the two studies presented a unique opportunity. Some of the questionnaires' items were matched and some joint analysis of the data sets in Stage 1, and collaboration continued into Stage 2 of both projects by following the same design of matching methods and items. They are, however separate and distinct in research conditions and priorities of topic.

TMP has three stages. Stage 1 is the cross-sectional mail survey as mentioned above. Stage 2 is a longitudinal study extending over a three-year period in which those taking part are a subset of the women participating in Stage 1. Stage 3 is a series of semi-structured, in-depth interviews with 100 women, a subset of the subset.

The target population consisted of 4150 women and was a stratified random sample of the general population of women aged forty to fifty-nine years resident in urban and rural areas of the province of Manitoba in 1982. Completed and useable questionnaires for analysis were received from 2503 women and after adjustment for errors, the overall response rate was 67%.

The extensive data collected has information on the health and health behaviour of women in midlife including chronic health problems, symptom profiles, medication use and patterns of physician contact. Some data are specific to women's health, such as their history of gynaecological surgery, their menstrual and menopausal status and experience. Other data provide information about employment patterns and on household and family structure, together with women's attitudes toward the roles available to them as wives, mothers, daughters, housewives or labour force participants.

Being cross-sectional in design, Stage 1 is limited in its ability to document the impact of hormonal changes on health and welfare. Baseline data preceding menopause are not available and interaction and transition cannot be reliably measured and assessed after the (menopause) event.

Stage 2 is longitudinal in which there are six collection points over three years. The subset is a group of 500 women without hysterectomies, aged 45 or over at the time of commencement of Stage 1, still menstruating and having given consent to recontact. Statistical probability ensured that the majority of these women had stopped menstruating at some point in the following three years, giving baseline and continuing data on the same individuals which precedes and succeeds menopause (and gives a precise date
of LMP) strengthening the study. Data could also be related to external events as well as the personal effects of cessation of menses.

Stage 3 was a series of 100 semi-structured interviews with participants in Stage 2, which are aimed at psychosocial aspects of women's lives and having more of an anthropological than epidemiological focus. Questions such as whether women saw menopause as a 'symbol-laden or symbol-free event' and what status is available at midlife, either within the family or in the wider community; whether loss of fertility relates to loss of identity and whether menopause necessitates the re-appraisal of the roles of life career as wife, mother or daughter.

The Manitoba Project presented a "detailed and rounded portrait of what it means to be a woman in midlife living in North America" (Kaufert, 1984).

iii. The Melbourne Women's Midlife Health Project (MWMHP).

The following information is taken from the publications of Prof. L. Dennerstein and colleagues beginning in 1992.

This is a cross-sectional study completed in 1991, together with a longitudinal phase examining women as they move through the menopause transition. Psychological and social factors as well as the biological and physiological changes associated with menopause were considered and their impact on women's health and well-being was assessed. The reasons why some women in midlife may experience hot flushes, aches and pains, and changes in mood and sexual interest while others do not is also evaluated. Factors contributing to a positive experience of this time of life were also examined. The project used qualitative and quantitative methods of research and incorporated a number of approaches including public health, biomedical, psychological and sociological perspectives as well as the views expressed by women themselves.

The cross-sectional phase of the study involved a survey of 2001 women from a randomly selected sample of Australian-born women between the ages of forty five and fifty five. The longitudinal phase assessed approximately 500 women of the original 2001, who had consented to continuing participation once a year for five years. An interview, physical measurements and blood collection were completed in each woman's home. Women were questioned about their health status, well-being, menstrual cycles, problems related to menstruation or menopause, use of health services, use of medications, stress, lifestyle factors, social relationships and
sociodemographic characteristics. They were asked to complete questionnaires on diet, stress and sexual functioning. A menstrual diary was supplied for each woman to complete during the following twelve months and physical measurements including height, weight, body fat distribution, waist and hip circumferences, and blood pressure were taken. A blood sample was taken after overnight fasting to establish hormone levels, levels of cholesterol, other blood fats and sugar.

The study also considered how the midlife period may influence longer-term problems such as bone loss and heart disease. Women were invited to have a bone density measurement at the Royal Melbourne Hospital to measure bone loss in the hip and spine. The use of HRT during menopause was also a major interest of the study. Women's experiences of HRT use and how it relates to long term health outcomes is still being examined.

Not all of the women taking part had already experienced menopause at the beginning of the study i.e., menstruation had occurred in the previous twelve months, none had had their uterus or ovaries removed and none were using oral contraceptives.

Specific questions being investigated as part of the project were:

* What are the experiences of menopause in Australian-born urban women?
* What influences women's health and well-being (including sexual health) during their midlife years and the menopause transition?
* What aspects of their health are of concern to, or problematic for, women during this aspect of their lives?
* What aspects of their health bring women into contact with the health services during this period of their lives?
* What are Australian-born women's experience of hormone replacement therapy?
* How do changes in women's sex hormones affect their cholesterol and fat levels as they pass through natural menopause?
* How does the use of HRT affect cholesterol and fat levels in women during midlife?
* How do menopausal changes in women's sex hormones interact with other cardiovascular risk factors such as body fat distribution, blood pressure and smoking?
* Do hormonal changes associated with the use of HRT interact with other cardiovascular risk factors?
In 1994, after detailed interviews, blood collection and physical measurements, the third phase of the Longitudinal Study was completed. The overall retention rate achieved was 93% of the original participants. When questioned about symptoms, using the explanatory variables, menopausal and health status; lifestyle behaviours; sociodemographics; and attitudes to aging and menopause, women's responses indicated that many factors unrelated to hormonal changes contributed to the symptoms they experienced. Symptom experience patterns were similar to those reported by North American and European women; hot flushes were predominant, 39% of the sample were troubled by these.

The term 'dysphoria' (state of unease or mental discomfort) used to elicit psychological symptoms distinct from terminology for describing major mental disorder, resulted in a 37.6% prevalence, but variables other than menopausal status explained the range of dysphoric symptoms.

"The higher order clustering of complaints into physical, psychological and vasomotor groups (was) not supported" (Dennerstein et al. 1993).

Vasomotor symptoms were clearly separate from other symptoms but there was no obvious division between psychological and somatic symptomatology. Although symptoms were undeniably related to menstrually-derived menopausal status they did not reach significance when the variations in health status and attitudes were added as factors in the analysis of variance. Of interest was the finding that current or prior premenstrual complaints predicted vasomotor and other symptoms. This has been found in studies in England (Hunter, 1992, 1993) and Canada (Kaufert et al., 1992) and McKinlay (1991) found that prior health status was the major predictor of current health status in the Massachusetts Women's Health Study of midlife women, contributing to 65% - 80% of the explained variance. In the MWMHP vasomotor symptoms were associated with perimenopause, and increased through the menopause transition but general somatic symptoms were also more frequent in the perimenopause. Menopausal status did not significantly affect wellbeing, which was associated with current health status variables of general psychosomatic symptoms, history of premenstrual complaints, overall health assessment and interpersonal stress. Attitudes to aging and menopause were also significantly related to marital status and wellbeing, as were lifestyle behaviours of smoking and exercise. There was no apparent association between symptoms and the endocrine changes that subsume the physiological change of menopause.

The factors related to help-seeking and health care utilisation, indicated that treatment utilisers, in contrast to non-utilisers experienced a
wider range of symptoms. Treatment utilisers were further divided into problem-seekers and problem-solvers. The past and present social and physical health of the problem-seeking treatment utiliser was worse than either the problem-solving treatment utiliser or the non-utiliser (Morse et al, 1994). The results from this study propose that biased views of menopause as a time of considerable distress and ill-health are being perpetuated and overgeneralised and this perspective has little relevance for the majority of midlife women (Morse et al, 1994).

Women were also asked if there had been a change in their sexual interest over the preceding twelve months, since physicians report that this can be a problem at midlife. Reasons for changes in sexual interest and frequency of sexual intercourse, and if there had been unusual pain associated with intercourse, were investigated. The majority of women (62%) reported no change in sexual interest although 31% reported a decrease. Decline was significantly associated with decreasing employment and symptomatology (vasomotor, cardiopulmonary and skeletal). A lowered risk of decreased sexual functioning was associated with eleven to twelve years education. It was not clear whether users of hormone replacement therapy were women who intended to remain sexually active or whether the occurrence of pain or lessened sexual interest were deciding factors in beginning hormone therapy. Adverse social factors were more clearly associated with decreased sexual interest as was reduced wellbeing. Since wellbeing did not vary with menopausal status it appeared that dysphoric symptoms were not related to decreased sexual interest. Summarising, results suggest that the sexual functioning of many women is adversely affected by the natural menopause transition, but the role of HRT is unclear in relation to this (Dennerstein et al., 1994: McKinlay, 1994).

1.2.8. Interdisciplinary Research.

Contemporary New Zealand women are expressing increasing interest and concern with their own health and wellbeing (Maslow, 1994). Information is freely dispensed by all forms of media; it is often provocative but frequently incomplete, and recent grave issues in women's health, eg. Cervical Cancer Enquiry, (Report from Judge Cartwright, 1988) first exposed by Sandra Coney and Phillida Bunkle, foster an attitude of scepticism and mistrust and promote a disinclination to accept uncertainty (Maslow, 1994).

"Women need to understand which of the many physical, emotional and psychological changes they experience in the perimenopausal
period are attributable to menopause and thus which changes may arise from other causes and imply other possible remedies" (Maslow, 1994).

Media respond to women's search for information with interpretations of research findings flawed by their journalists' lack of scientific knowledge. Simplistic reporting, delivered without context is more often than not, misleading. The leading national interpreter of women's health research for the popular press in New Zealand, Sandra Coney, has suggested that

"Talking about menopause is a double-edged sword, for while it helps to be informed, dwelling on it may transform an event most women cope with readily into a source of worry" (extract from the Sunday Star Times, April 1994) - a statement which overstates women's intellectual vulnerability, and implies susceptibility. Coney does however, successfully and laudably bring women's health issues to the nation's attention. A more balanced method of disseminating information comes from Fugate Woods:

"The discontinuity in the organisation of health services for women who receive health care from obstetricians and gynaecologists during their young adult years, and from geriatricians during their later years may shape a very unique view of midlife - one that does not allow for a lifespan perspective in which midlife is a segment connected to a beginning and an end" (1994). This may promote 'medicalisation' of what is more eruditely described as a developmental process (MacPherson, 1992). All those involved in health care should be aware that current emphasis on professional ethics demands that their advice and service delivery should be meticulously appropriate and accurate. Women need to know not only the obvious manifestations of menopause and the different methods of health care available to them, but also of the 'silent' alterations which may begin in the climacteric, such as reduction in bone density and cardiovascular changes. Without a source of sound information women cannot make informed decisions about short or long-term health-related consequences of menopause and the self-care options available to them (Maslow, 1994).

Women still seem to be undecided about whether menopause should be celebrated as a developmental feature, or regarded as a condition requiring medical intervention (Leiblum and Swartzman, 1986) or ignored. The evolution and philosophy of menopause re-adjustment is progressing within scientific circles for dissemination to the wider community, but to be readily assimilated, an easily comprehensible and accessible form of integrated information should be offered (Leiblum and Swartzman, 1986).

"Knowledge for women and not just about them" (Fugate Woods, 1994).
Fugate Woods emphasises the all-encompassing study dimensions needed by pointing to the infrequent use of perspectives that integrate the views of several disciplines to delineate women's midlife -

"Consequently the possibilities of interrelationships between personal, behavioural, social and cultural dimensions of midlife remain poorly understood ..... Culture mediates lifestyle, including self-care strategies like diet and exercise ..... Linking social status (which changes with women's age) to physical as well as cognitive and emotional dimensions of health could provide important understanding about links between women's social environments and their biology" (1994).

"Studies that can span the traditional disciplinary boundaries to create a more complete account of menopause and health" should be designed to "fill a large void in our understanding of this part of women's lives" (Fugate Woods, 1994).

In consistently pragmatic mode S. McKinlay is succinct;

"..... there is a need for innovative, interdisciplinary collaboration, so that clinically relevant studies are cost-efficiently piggy-backed onto population-based cohort studies (which are expensive to establish and maintain). With this approach, the inadequate, highly biased clinical study of patients is avoided and the opportunity for advancing is accelerated, using well-designed substudies, with adequate numbers (large enough for realistic generalisability) of subjects representing the full range of menopause experience and equivalent medical care access" (1994).

Finally, "Women, themselves, may see midlife and the menopause transition as the prime of life - not a time of disease" (Mitchell and Helsen, 1990) - a view not widely recognised but certainly a logical progression if Erikson's theory of life stages is given credence. This may be the time when women are free to complete the consolidation of trust, autonomy, initiative, industry, identity and intimacy (Erikson, 1968), development of which may have been arrested by their earlier social role investments. Resolution and completion of the earlier stages allows the adult to achieve a sense of personal integrity and competence coupled with empathy for and care of others (Phillips, 1990, p. 282).

Levinson's theories of adult development also could be fruitfully applied to midlife; rebuilding a new life structure in midlife facilitates a step in individuation and permits one to be more compassionate, reflective and judicious, more loving of self and others (Phillips, 1990, ibid.). Greater understanding of the sometimes turbulent re-appraisal and re-direction at
midlife could be gained by recognising, reflecting on and applying these theories to midlife relationships.

1.2.9. The present study.

The hypotheses of this study are based upon questions about menopause and midlife still not adequately answered. Women's emergence as recognised intellectual and economic force creates challenges and makes demands upon society, not previously taken seriously. The comparatively swift role changes for all women did not exclude substantial effects on midlife women. Midlife experience is not just observed as different from other life stages it is also experienced as different from midlife fifty years ago. There have been both between and within gender shifts in perspective that question the credibility of received knowledge. Externally conceived attitudes are being replaced by women's own attitudes about themselves and their bodies; challenges to tradition have a new authority.

This study attempts to elucidate which of the old ideas still have some credence and which are insubstantiated by women's real experiences of menopause. Does the accompanying period of transition have notable benefits which ameliorate or even enhance its inevitability. Is lost reproductive ability still viewed as a cost? Is the menopause transition a springboard to the next developmental stage of women's lives? Generally, is menopause still seen negatively?

The survey objective was to determine the current attitudes of women to menopause, in the context of concurrent midlife situations and events which relate to the physiological changes of the menopause years.
2. METHOD.

2.1. Introduction.

The aim of this study was to survey a population of midlife women to investigate their mental health and self concept in relation to their beliefs about menopause in the context of their personal and social midlife environment. A comparison with previously ascertained mental health and self esteem scores was included to note any change that may have occurred in the previous eight years.

The subjects were drawn from the sample of women who had answered a postal questionnaire on mental health and lifestyle issues (Otago Women's Health Survey, Romans-Clarkson et al, 1989), including the General Health Questionnaire (GHQ-28, Goldberg and Blackwell, 1970), and the Self Concept Questionnaire (Robson, 1989) in 1989. They had been randomly selected from the Otago electoral rolls in 1989.

Permission for the proposed midlife survey and a preliminary pilot study was granted by the Ethics Committee of the Southern Regional Health Authority.

The women had not been contacted again in the intervening eight years.

2.2. Sampling Technique.

To ensure that this sample was still within the Otago area, the 1989 list of women was cross checked with the five 1996 rolls of the electoral districts which constitute the province of Otago; the urban electorates of Dunedin North, Dunedin South and Dunedin West and the predominantly rural electorates of Otago and Clutha. Changes of address were noted, but if names were no longer on the roll they were assumed to be unavailable for contact. The survey was designed to canvass a population large enough to capture four sub-samples of women, falling into (1) a group of premenopausal women, (2) a group of perimenopausal women, (3) a group of postmenopausal women and (4) a group of women who had undergone surgical menopause, each group being large enough to be a cross section representing the experiences and attitudes of the group.
2.3. Ethnicity.

The Otago area is not ethnically homogenous but the proportion of residents of non-European descent is very small and though increasing, belong to a younger age group. People of all ethnic groups who are eligible to vote register on the General Electoral Roll.

2.4. Sampling.

The sample had originally been selected, in 1989, as part of the Otago Women’s Health Survey (OWHS). Contacting them again meant they were not chosen at random, but were a convenience sample having already answered two questionnaires (GHQ-28 and SCQ), the resulting data being still on record. The exclusion of women reporting child sex abuse (CSA) meant that the available sample were probably healthier than "average." (Romans et al, 1996). There had been a response rate of 75% to the original sampling which had been over a wider age range, 20-64 years. This means that the women at the older end of the age range were not re-sampled. Two groups from the original sample had been chosen as an interview sample - urban women reporting CSA on the postal questionnaire, and a random sample of the reporting no abuse. These women were not considered for the present study.
3. The Subjects.

The data for this study was obtained from urban and rural women aged 40 to 65 years in Otago. From 436 mailed questionnaires, 236 utilisable responses were received. Subjects were divided according to age into three groups; 40-50, 51-55 and 56-65 years and also into four menopausal status sub-groups; 72 were premenopausal; 23 were perimenopausal; 74 were postmenopausal and 59 were women who had had hysterectomies. All 236 responses were included in both cross-sectional and longitudinal aspects of the study though some had missing data on individual questions to which the women had not responded.

3.1. Procedure.

The survey comprised three questionnaires, two devised in Britain and recognised internationally, the General Health Questionnaire - version 12 (GHQ-12, Goldberg, 1978) and the Self Concept Questionnaire (SCQ, Robson, 1989). The third, survey ofCurrent Attitudes to Menopause (CAM) was devised by this investigator for this survey. It was hoped that the dimension of menopause beliefs and attitudes linked to mental health (GHQ-12) and self concept (SCQ) would be elucidated by means of questions about general health, menstrual history as well as the social environment of the midlife period. Demographic questions were also included.

Because the CAM questionnaire was new, it was piloted by 22 women who had taken part in the cardiovascular/HRT research study mentioned in the introduction. Their voluntary consent for this pilot was obtained at the final meeting convened to give them the results of that study in December, 1996. These women were not a representative sample for several reasons: they were acquainted with menopause research already and were known to the investigator. They were mostly postmenopausal and all had taken previous opportunities to discuss their concerns about menopause and midlife, and ask questions both general and personal. In addition they were of a higher socioeconomic status and education level than the general population. However they were an appropriate pilot sample because it was not the substance of their answers that was important: rather the
questions' framing and intelligibility were being tested, together with length of the instrument, its appropriateness and acceptability. The women in the pilot study were also asked to comment on the questions as they saw fit.

All pilot CAM questionnaires were promptly returned and a very few minor adjustments were made, mainly of qualification of terms and change to more colloquial language. A full copy of CAM is in APPENDIX 5.

For the main study two postings of questionnaires were sent out a fortnight apart, in order to stagger the responses for more convenient handling. The aims of the survey were outlined and a self-addressed, stamped envelope was included for return whether the survey instruments were completed or not, to facilitate response. Included also was a letter assuring confidentiality, together with a consent form stating that the information had been read and understood: its return, signed, constituted the giving of informed consent (see APPENDIX 3). People not wishing to participate were asked to return the forms unanswered. The researcher's status and that of her supervisors was stated, and contact telephone numbers given for any queries. Willing participants were assured of a short posted report on the results of the survey if that was what they wished.

Of the non-responders, 20 were selected at random for telephone contact in order to ascertain reasons for not answering. Calls were made during usual working hours or after, to ensure that the probability of contact was maximised. If the first call within usual working hours failed a second call was made outside of this time.

3.2. Instruments.

i. General Health Questionnaire-12, (GHQ-12).

The GHQ-12 used in 1997, and the GHQ-28 in 1989, were both constructed by Prof. Sir David Goldberg (London, 1978).

"If investigators wish to use a screening instrument as a case detector, the shorter GHQ is remarkably robust and works as well as the longer instrument. The latter should only be used if there is an interest in the scaled scores provided in addition to the total score" (Goldberg et al. 1997).
The GHQ was designed to screen those suffering from minor psychiatric morbidity of short duration and/or those who are psychologically healthy. It is not intended as a tool for diagnosis of psychiatric illness or to distinguish between psychiatric disorders or to measure the extent or severity of a psychiatric disorder. Rather it distinguishes between the symptoms of illness that are present and are common to all psychiatric disorders but are not present in the psychologically healthy. These core symptoms are best described as 'neurotic' (Maxwell, 1973) or 'dysthymic disorders' (Foulds and Bedford, 1975). At this undifferentiated level of psychiatric illness, the GHQ-12 will also find various minor somatic symptoms and observable changes in social behaviours that tend to accompany a developing psychiatric disorder (Goldberg and Williams, 1988).

Designed primarily for use in general practice setting, the GHQ-12 can detect the psychological components of ill health (Goldberg and Williams, 1975), which are not the primary reason for seeking consultation. Thus the symptoms that the GHQ-12 assesses reflect minor changes in normal functioning rather than lifelong characteristics: GHQ-12 is sensitive to changes, thus it measures 'state' not 'trait'. Onset of the condition must be very recent, symptoms are of low severity and described as reactive alterations in emotion that relate to prevailing situations (Foulds and Bedford, 1975).

The brevity of the GHQ-12 makes it attractive for use in clinical settings or in the community where a quick, easily answered assessment is required with minimal inconvenience but is still instrumentally efficient (Goldberg et al. 1997). The GHQ-12 is ideal for the situation in which it is used in this study given the understanding that it may be measuring a transient disorder or an incipient illness. Symptoms may be related to social conditions, either short-term where onset is noticeably abrupt, (eg. argument with a significant person), or longer-term adverse sociodemographic conditions (eg. low income) which might otherwise be unobserved. The possible presence of severe psychiatric disorders can also be screened and 'cases' can then be followed by diagnostic interview. (Goldberg et al., 1997). It is an efficient tool for postal community survey such as this study.

The GHQ-12 shares only six items with the longer GHQ-28. The validity of GHQ-12 has been studied 16 times in nine countries in primary care and community settings with satisfactory results (Goldberg et al. 1997). Overall misclassification rates are comparable
and specificity and sensitivity are not significantly different between GHQ-12 and GHQ-28 (Goldberg et al., 1997). (Specificity is percentage of true negatives and sensitivity is the percentage of true positives calculated after diagnostic interview). Validity depends on prevalence rates and the criteria used for illness. In community samples prevalence rates are expected to range between 20-45% and between these limits Goldberg maintains that the screen "works quite well" (1972). Where prevalence is expected to be low, as in this community sample (as opposed to a clinical sample), sensitivity is also expected to be low and threshold can be manipulated to increase specificity but at the expense of lowering sensitivity even further.

The validity of GHQ-28 has been demonstrated for Otago women by setting it against a psychiatric interview known as the Present State Examination (PSE) (Romans et al., 1989). Goldberg and colleagues (1997) compared the GHQ-12 with the GHQ-28 in a World Health Organisation study of psychological disorders in general health care finding that the shorter GHQ is "remarkably robust" and that it "works as well as the longer instrument". GHQ scoring method is a simple technique which assigns a score of zero to the item if checked in either of the first two columns ('not at all' & 'same as usual') and a score of one if either of the last two columns ('rather more than usual' & 'much more than usual') are checked (0-0-1-1). Thus the same weight is given to answers in the middle of the scale as is given to answers at the extremes of the scale. The problems of 'middle/extreme users' is eliminated. Each item receives equal weighting in contribution to the overall GHQ score. This scoring procedure does not detract from the efficiency of case detection which is set at >4 for GHQ-28 (Romans et al. 1989) and >2 for GHQ-12 (Goldberg et al. 1997). [Likert scoring (1-2-3-4) produces a wider, smoother score distribution if assessment of severity is desired (Goldberg et al. 1997).] Goldberg favours lowering threshold score when shorter versions of GHQ are used, therefore the choice of >2 as threshold was made on the basis of it being the preference (the mode), with a mean sensitivity of 75% and a mean specificity of 77.5% in a meta analysis of five community/primary care studies with >77 subjects in four countries. (Goldberg et al. 1997).

Finally, there are no significant effects of gender, age or educational level when the GHQ-12 or GHQ-28 is used as a screening instrument (Goldberg et al, 1997) and it is recommended for research
when correlations with social variables are required; as when a sample 
is to be screened on different occasions as here, and for assessing point 
prevalence in cross-sectional studies. (Goldberg, 1972).

Because this study is primarily epidemiological (a 
psychosocial community survey), and postal, the GHQ-12 was utilised 
as the most suitable instrument because of its efficiency as a screen and 
its brevity. Goldberg's (1997) own satisfactory conclusions of 
comparative validity between GHQ-12 and GHQ-28 gives credence to 
its utilisation in the longitudinal aspect of this study. (see APPENDIX 4 
for GHQ-12 in full).

ii. Self-Concept Questionnaire (SCQ).

Self esteem is a complex construct and the concept has 
different definitions and interpretations. The Self-Concept 
Questionnaire was constructed by Dr. Phillip Robson, a psychiatrist and 
researcher, in 1989. Self-esteem is defined as a composite, "an idea 
rather than an entity" (Robson, 1989). Clinicians discuss it both as an 
explanation and a consequence of psychological disorder, but there are 
a multitude of discrepant definitions each reflecting the theoretical 
stance of the writer. "Is it a need (Maslow, 1954), an attitude 
(Coopersmith, 1967), a consequence of competence (White, 1964), a 
necessary condition for achievement (Coopersmith, 1967), an index of 
mental health (Fitts, 1972), or a moderating variable (Ziller,1973)' 
concludes that self-esteem can be defined as follows:

"The sense of contentment and self acceptance that stems 
from a person's appraisal of his (sic) own worth, significance, 
attractiveness, competence, and ability to satisfy his aspirations.” 
(1988).

Based on this definition, the questionnaire consists of 30 
items categorised as follows: significance (5): worthiness (5): 
appearance/social acceptability (5): resilience and determination (5):
competence (4): control over personal destiny (4): value of existence 
(2). The instructions for the questionnaire request a response "as you 
typically feel, most of the time" to encourage 'trait' rather than 'state' 
attributes.
Since the relative scores of items and components is of primary interest, a Likert scale is used. The four anchor points range from "completely disagree" to "completely agree". The numerical scale for each item ranges from 0 - 7, giving a maximum possible score for 'global' self-esteem of 210. Negative items have their scores reversed for the calculation of the total score. "The phrasing and ordering of the items (are) arranged to minimise the commoner response errors. Thus there is a balance of positive and negative items to counter the tendency to acquiesce, categories are well mixed to reduce the halo effect and the logical error, and double-barrelled statements are avoided" (Robson, 1989).

Higher scores indicate better self-esteem. For the original OWHS sample described by Romans and colleagues (1996) the mean self-esteem score for the control group of women was 147.4 (Sd. 25.8): the original mean score for controls found by Robson (1989) in his convenience samples was 137 (Sd. 2.41).

The self-concept questionnaire is not designed to be utilised in circumstances where acute disorders are the focus, because abnormal mood states distort many cognitive processes, including memory (Clark and Teasdale, 1982), attributions and expectancies (Abrahamson et al., 1978), and evaluations of the world and oneself (Beck, 1967). Self-report in these circumstances would be undeniably biased, particularly when consideration of an abstract value judgement, such as self-esteem, is required (Robson, 1989). Like the GHQ-12 described above, the SCQ is more useful as an instrument in non-acute situations where an overview of a general situation is required, rather than a diagnostic tool. (see APPENDIX 5 for SCQ in full).

iii. Survey of Current Attitudes to Menopause (CAM).

This was constructed of 57 questions, the first part, questions 1-6 were concerned with demographics; age, marital status, income, home ownership and employment. Part 2, question 7-57, covered education level and length of employment, and included partner's financial contribution and own decision making status within the household. Question 18, was directed toward eliciting social support. Other questions gauged physical and mental wellbeing, social roles and parental commitments, then menstrual and
reproductive history, formed the next section, with specific questions about menopause (Full definition of all terms relating to menopause are in APPENDICES 1 and 2). The following questions asked for some introspection; a global midlife assessment, the relative importance of the value of more abstract concepts (eg. service to others) and marital satisfaction. Two questions asked directly for attitudes to menopause and its possible subjective impact. Four questions were designed to be analysed with the GHQ-12 and SCQ scores for additional insight. These questions required ranking of possible statements by subjective importance to elicit self-efficacy and ranged around ideas of independence and competence. The last question closed the process of answering by addressing availability of support services. Dispersed throughout the second part there were open-ended questions to facilitate further qualification of the immediately preceding answer.

CAM attempted to elicit a general picture, with some specific areas of deeper interest relating to status, marital/partnership harmony, social roles, health and wellbeing as well as reproductive life and attitudes to menopause. Together with the two other questionnaires, CAM tried to determine what influenced each participant's perception of midlife in relation to the menopause transition. Scoring was mainly categorical: (47 questions); 10 questions were bimodal (yes/no), and data was coded numerically and entered into the University Systems Database. (see APPENDIX 6 for CAM questionnaire in full).

3.3. Statistical Analysis.

Frequency tables expressed descriptive percentages. Multivariate analysis by means of logistic regression and bivariate analyses of variance (ANOVA) was used to detect overall differences. The Chi-square Contingency distribution ($\chi^2$, test of independence) at 0.95 was used to make inferences about association between variables. The chi-square is an approach to a normal distribution and allows approximation of chi-square probabilities where degrees of freedom are large by normal probabilities. The F distribution is unimodal (non normal) and was used to make inferences about variance (and therefore error) in the continuous probability of the variables in the ANOVA tables. Paired Student's t-tests were used to compare and
make inferences about OWHS-1989 data and GHQ-12 and SCQ 1997 data. Since these were dependent data the strength of the test was high and the t-distribution also approaches the standard normal distribution as degrees of freedom become large. Cross-tabulations, (bivariate) and multivariate analyses of variants (logistic regression) were based on the areas of interest found in the literature and to test traditional theories about menopause and its effects. The Statistical Package for Social Sciences, (SPSS, 1988) was used for all analyses. Reported also are results about variables that were of some interest because they did not reach significance - these are noteworthy because they were anticipated to have been significant within traditional beliefs about menopause. Significance level was $\alpha = 0.05$. 
3.4. Menopause Status: Brief Definition of Phases.

To facilitate understanding of the phases of menopausal status used in this study they are briefly defined here in temporal terms. This is how they were presented in the CAM questionnaire and are those endorsed by the World Health Organisation.

i. Premenopause: the time in women's lives from age 40 when menstruation is regular (or within the parameters of individual's expectation of regularity) until the time when menstruation naturally becomes irregular (or outside individual parameters of what is expected). (see q. 38 of CAM).

ii. Perimenopause: menstruation has become irregular and has been so for at least three months. It may of course have been absent for three months or more but for no longer than twelve months. It is defined as the time around menopause, (Latin; peri - around or about.) and may last for about four years. It is not uncommon for women to experience bleeding after the requisite 12 months amenorrhoea which retrospectively defined the LMP, but unless pathology is found, this blood loss is due to spontaneous breakdown of the endometrium with the continuing low secretion of oestradiol causing build up without the opposition of progesterone. It can be termed 'breakthrough bleeding' and is an indication of the continuation of perimenopause into the time after the LMP.

iii. Menopause: the last menstrual period (LMP), a discrete event. Calculated retrospectively and said to have occurred when menses have been absent for twelve months. Median age of menopause in developed societies is 50.8 years.

iv. Postmenopause: the time in women's lives when menstruation is completely absent after menopause. Occupies the residual part of the climacteric.

v. Climacteric: this is a continuous period of time and can be as long as twenty years - ten years before menopause and ten years beyond it. It is a long term process dependent upon physiology, and encompasses many biological changes, one of which is menopause. It is difficult to assess in any individual because not all of the changes are visible or measurable, but for most women it extends for 2-4 years and starts around age 46-48 years.
3.5. Symptoms of Menopause.

A brief description of some of the symptoms of menopause used in the survey is necessary for clarification purposes. The list was deliberately kept to a minimum since there is still much ambivalence about assigning symptoms that are not necessarily a manifestation of declining oestrogen and progesterone levels to the climacteric.

Symptoms assessed were mostly self-explanatory - heavy bleeding (menorrhagia), fatigue, anxiety/tension and insomnia. Women were expected to be able to judge for themselves if what they were experiencing was typical of similar past experiences and to respond if present signs were outside the norm for them and therefore 'symptoms'. As the sample population was composed of mature women it was considered that their responses would be sufficiently accurate.

Hot flushes are an unusual phenomenon, though not confined to the menopause years, (or to women) but pre-eminently attributed to them by convention to be accurately described as being part of the phenomenology of menopause if not accompanied by another notable pathology. They have been known to accompany extremely high blood pressure, (especially pheocromocytoma), but usually there are other signs of pathology that are not commonly seen in the menopause years. Since they are the symptom most frequently reported in developed societies women would be expected to notice their advent. They occur at any time and can last up to 12 minutes though usually it is much less, causing a reddening of the skin of the upper chest, neck and face and often accompanied by visible perspiration in these areas. Hot flushes do vary in intensity between individuals but they have the common property of causing some self-consciousness on the part of the person concerned. When they occur at night, which frequently happens, they are referred to as night sweats, often causing insomnia, though insomnia does frequently occur at menopause without them. Sometimes night sweats cause some considerable distress for those who suffer them and may be sufficient for recourse to a GP. (It is usual for hot flushes, night sweats, vaginal dryness and sometimes heavy bleeding to respond to HRT).

Some medical models do include vaginal dryness as a condition caused by irregularity in vascular function because atrophic conditions due to non-pathological states are frequently found accompanying deteriorating vascular function. In the case of menopause, the vascular endothelium, especially that lining the reproductive tracts, (ie. includes bladder and urethra), is thought to be affected by decreasing levels of endothelial-derived relaxing factor which modifies Ca-dependent processes, which constrain
cellular function. Vascular action is also changed by decreasing oestradiol levels. Peripheral arteries constrict and there is an increase in arterial resistance. Both of these contribute to the atrophic symptoms in the urinary/genital tract. However it is unlikely that the decrease in vascular perfusion is constant because oestradiol does not decrease at a constant rate but is subject to the fluctuations that are concomitant with the pulsatility of FSH release from the hypothalamic pituitary axis (HPA). For these reasons vaginal dryness/atrophic vaginitis which frequently causes dyspareunia (painful intercourse) is included in the category of vasomotor symptoms, even though the volatility of the underlying physiology is less apparent. Indeed the aetiology of hot flushes is also unclear because the initiating mechanism which brings about the vascular instability is uncertain, though current opinion centres on instability in the centre in the hypothalamus.

Vaginal dryness continues into the postmenopausal years and beyond and may cause vaginitis as the atrophic condition worsens. Many elderly women suffer both stress incontinence and 'senile' vaginitis as a result of decreased oestrogen. These conditions can be treated effectively with small doses of oestrogen either orally or by topical application, neither route causing any 'rejuvenation' of the endometrium.
4. RESULTS.

4.1. Response rate.
There was a valid response from 236 women, i.e., a response rate of 54.8% after adjustment for incorrect age identification and misdirected mailing. Fifty-six women declined to respond and returned the questionnaires unanswered in the self-addressed, stamped enveloped provided. The total number of women who did not respond at all was 139.

4.2. Demographic Characteristics of the Sample.
i. General.
The age range of the subjects was between 40 and 65 years, divided into three groups (Table 1). Most women (109) were into the youngest group, between 40 - 50 years. Most women were married (80%), 11.9% of these had been married more than once. Over half of the sample (56.3%) were in long term relationships which had lasted more than 20 years. Education levels ranged from school certificate to a postgraduate degree with over one third having some tertiary education. However 84 women did not respond to this question. Two thirds of subjects were in paid employment, either full or part time, and almost one half did voluntary work, mostly between one and eight hours per week. The 35.6% who were not in paid employment were in the older age group (Table 1a). Over one quarter earned less than $10,000 p.a. (Table 2). Five (2.1%) had children at secondary school, six women had preschool children and five had primary school children and 38.6%, (n=91) stated that their children were dependent. This last category did not include children <25 years of age who were tertiary students and who were included in the group of 55.9% (n=132) who said that their children were employed. When social roles were compared with menopausal status the pre and postmenopausal groups were the two largest in numbers employed of who had dependent children, 31.6% and 32.3% respectively. Of the total sample 43 (18.8%) women did not work outside the home.

ii. Home ownership.
Over half (53.4%) owned their own homes. One third (37.3%) held mortgages, and only 3.8% were renting. Included in these figures were women who lived (and worked) on farms and one on an orchard.

iii. Caregiving.
a.) Dependent parents.
Twenty six women (11% of 230) were caring for elderly parents, either her own or her partner/husband’s. Two said that parent(s) lived with them.

b.) Dependent parents by menopausal status by fatigue.

Numbers of women having dependent parents ranged over all menopausal status groups from 8-12. Of these 40% premenopausal women reported fatigue, but the other three groups were evenly spread, perimenopausal 20%, postmenopausal 20%, and women with surgical menopause 20%. These differences did not reach significance nor was there any difference in fatigue reporting by menopausal status whether there were dependent parents or not.

c.) Dependent children. (Table 3.)

In response to the question "do your children live with you at least 50% of the time?" 53.8% (n=127) said that they did. Seven (3%) had children <25 years at a tertiary institution. Seventeen women (7.2%) had adult children living with them. With the inclusion of tertiary students as employed, the response to the question on children's employment status yielded 56.4% "all" employed, 19.5% "some" employed and 15.7% (n=37) "none" employed. Twenty women did not respond to this question: those with children who were either at school or at pre-school level may have thought it redundant to do so.

4.3. Comparison of 1997 respondents with non-respondents.

i. Marital status. (Table 4.)

Data from 1989 shows that women who did not respond in 1997 were more likely in 1989 to have been separated, divorced or single, (n=56, 18.6%; chi-square 4.15, df 1, p<0.04). In 1997, 87.1% (n=195) were married or in partnerships; [11.54%, (n=27) stated that they had had a prior marriage] whereas in 1989, 80.6% (n=241) were married or in partnerships (chi square 13.09, df 3, p<0.004).


Women who rated themselves as having a high socio-economic status in 1989 were more likely to respond than those women whose SES was lower (chi square 14.39, df 6, p<0.025)


About 6% (NS) more working women responded in 1997. (Table 5.)
Table 1. DEMOGRAPHIC FREQUENCIES, N = 236

<table>
<thead>
<tr>
<th>AGE</th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-50</td>
<td>109</td>
<td>46</td>
</tr>
<tr>
<td>51-55</td>
<td>54</td>
<td>22.9</td>
</tr>
<tr>
<td>56-65</td>
<td>73</td>
<td>30.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARITAL STATUS</th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>widowed</td>
<td>17</td>
<td>7.2</td>
</tr>
<tr>
<td>married</td>
<td>188</td>
<td>79.7</td>
</tr>
<tr>
<td>partnership</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>separated</td>
<td>4</td>
<td>1.7</td>
</tr>
<tr>
<td>divorced</td>
<td>10</td>
<td>4.2</td>
</tr>
<tr>
<td>single</td>
<td>8</td>
<td>3.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EDUCATION LEVEL</th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>school certificate</td>
<td>56</td>
<td>23.7</td>
</tr>
<tr>
<td>university entrance</td>
<td>9</td>
<td>3.8</td>
</tr>
<tr>
<td>tertiary</td>
<td>77</td>
<td>32.6</td>
</tr>
<tr>
<td>postgraduate</td>
<td>9</td>
<td>3.8</td>
</tr>
<tr>
<td>no qualifications listed</td>
<td>84</td>
<td>35.6</td>
</tr>
</tbody>
</table>

Table 1a

<table>
<thead>
<tr>
<th>EMPLOYMENT</th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>full time</td>
<td>72</td>
<td>30.5</td>
</tr>
<tr>
<td>part time</td>
<td>76</td>
<td>32.2</td>
</tr>
<tr>
<td>none</td>
<td>83</td>
<td>35.2</td>
</tr>
<tr>
<td>volunteer</td>
<td>111</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PARITY</th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>no children</td>
<td>18</td>
<td>7.6</td>
</tr>
<tr>
<td>1</td>
<td>15</td>
<td>6.4</td>
</tr>
<tr>
<td>2 - 3</td>
<td>162</td>
<td>68.6</td>
</tr>
<tr>
<td>4 or more</td>
<td>38</td>
<td>16.1</td>
</tr>
</tbody>
</table>
Table 2. PERSONAL INCOME LEVEL.

<table>
<thead>
<tr>
<th>AMOUNT $</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10,000</td>
<td>63</td>
<td>26.7</td>
</tr>
<tr>
<td>10,000-14,999</td>
<td>40</td>
<td>16.9</td>
</tr>
<tr>
<td>15,000-19,999</td>
<td>24</td>
<td>10.2</td>
</tr>
<tr>
<td>20,000-29,999</td>
<td>32</td>
<td>13.6</td>
</tr>
<tr>
<td>30,000-39,999</td>
<td>33</td>
<td>14</td>
</tr>
<tr>
<td>40,000-49,999</td>
<td>11</td>
<td>4.7</td>
</tr>
<tr>
<td>50,000-65,000</td>
<td>8</td>
<td>3.4*</td>
</tr>
<tr>
<td>&gt;65,000</td>
<td>5</td>
<td>2.1*</td>
</tr>
<tr>
<td>missing</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

* 6/13 women reported the same source of income as their partner.

Table 3. STATUS OF CHILDREN: N = 216.

<table>
<thead>
<tr>
<th>CHILDREN'S STATUS</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre school</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>primary school</td>
<td>18</td>
<td>7.6</td>
</tr>
<tr>
<td>secondary school</td>
<td>14</td>
<td>5.9</td>
</tr>
<tr>
<td>employed/student</td>
<td>179</td>
<td>75.9</td>
</tr>
</tbody>
</table>

Table 4. MARITAL STATUS 1989 AND 1997.

<table>
<thead>
<tr>
<th>MARITAL STATUS</th>
<th>1989 N=306</th>
<th>1997 N=234</th>
</tr>
</thead>
<tbody>
<tr>
<td>widowed</td>
<td>9 (3.0%)</td>
<td>8 (3.6%)</td>
</tr>
<tr>
<td>married/partnership</td>
<td>241 (80.6%)</td>
<td>195 (87.1%)</td>
</tr>
<tr>
<td>separated</td>
<td>42 (14%)</td>
<td>11 (4.9%)</td>
</tr>
<tr>
<td>single</td>
<td>7 (2.3%)</td>
<td>10 (4.5%)</td>
</tr>
<tr>
<td>never married</td>
<td>7 (2.3%)</td>
<td>10 (4.5%)</td>
</tr>
</tbody>
</table>
Table 5. AGÉ, MENTAL HEALTH, SELF ESTEEM & EMPLOYMENT in 1989:

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>mean GHQ</th>
<th>mean SCQ</th>
<th>GHQ cases</th>
<th>work</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPONDERS</td>
<td>43.9</td>
<td>2.1 (3.7)</td>
<td>145.2 (25.5)</td>
<td>18.3%</td>
<td>69.6%</td>
</tr>
<tr>
<td>N/RESPONDERS</td>
<td>43.7</td>
<td>2.7 (4.5)</td>
<td>142.1 (26.3)</td>
<td>24.7%</td>
<td>63.5%</td>
</tr>
</tbody>
</table>

NS NS NS NS

4.4. Menopausal status. (Table 6).

i. Group characteristics.

Almost one third (30.5%) of women were premenopausal. Almost one tenth (9.7%) were perimenopausal and almost one third were (31.4%) were postmenopausal. One quarter had had a hysterectomy and four of these women stated that they were unsure of whether they still had ovaries; 10 stated that they had none.

Table 6. MENOPAUSAL STATUS GROUPS: N = 236.

<table>
<thead>
<tr>
<th>STATUS</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>premenopausal</td>
<td>72</td>
<td>30.5</td>
</tr>
<tr>
<td>perimenopausal</td>
<td>23</td>
<td>9.7</td>
</tr>
<tr>
<td>postmenopausal</td>
<td>74</td>
<td>31.4</td>
</tr>
<tr>
<td>hysterectomised</td>
<td>59</td>
<td>25</td>
</tr>
<tr>
<td>(missing)</td>
<td>(8)</td>
<td></td>
</tr>
</tbody>
</table>


As expected age was strongly associated with menopausal status (chi-square 118.90, df 6, p<0.0001) and fell within expected norms. Few women fell outside of normal (approximate) age range for the natural menopausal states according to their reported age in 1989. This was done by simply adding eight years to the 1989 stated age. Two women who were in the age range 30-39 years in 1989 were postmenopausal in 1997 which is not very unusual, and one woman who was premenopausal in the 50-59 year age range in 1989 was still premenopausal in 1997 which is rare since maximum age of LMP is reported to be 55 years. Women surveyed in 1989 had a mean age of 51.9 (Sd 6.795) years in 1997. The mean age of perimenopausal women in 1997 was 50.36 (Sd 2.40) years, (F 61.02, df 3, p<0.0001). Thus this should have captured the global mean age at menopause.
Table 7. **MENOPAUSAL STATUS, AGE and MENTAL HEALTH & SELF ESTEEM (means).**

<table>
<thead>
<tr>
<th>STATUS</th>
<th>AGE</th>
<th>GHQ '89</th>
<th>GHQ'97</th>
<th>SCQ'89</th>
<th>SCQ'97</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>45.8</td>
<td>2.4 (4.2)*</td>
<td>2.0 (0.6)*</td>
<td>145.3 (27.9)*</td>
<td>144.6 (25.1)*</td>
<td>30.9</td>
</tr>
<tr>
<td>PERI</td>
<td>50.1</td>
<td>2.5 (4.1)</td>
<td>1.8 (0.4)</td>
<td>145.7 (22.2)</td>
<td>147.2 (23.3)</td>
<td>9.3</td>
</tr>
<tr>
<td>POST</td>
<td>57.2</td>
<td>1.8 (3.1)</td>
<td>1.9 (0.5)</td>
<td>149.1 (22.5)</td>
<td>147.4 (21.7)</td>
<td>31.4</td>
</tr>
<tr>
<td>HYST</td>
<td>53.6</td>
<td>2.5 (3.6)</td>
<td>1.9 (0.5)</td>
<td>142.5 (25.1)</td>
<td>144.3 (25.7)</td>
<td>25.4</td>
</tr>
</tbody>
</table>

* Sd. in all parentheses.

4.5. Menopausal Symptoms.

i. Prevalence of symptoms associated with menopause. (Table 8).

Study participants were asked whether they had (ever) experienced a range of symptoms commonly associated with menopause. Eighty two women (34.75% of the total) stated that they had none of the listed symptoms which they associated with menopause. The most commonly occurring symptom was hot flushes, being one quarter of all symptoms reported. Menorrhagia was reported to be almost one fifth of symptoms and prevalence of fatigue was one tenth of reported symptoms. Anxiety/tension had a lower prevalence rate. Vaginal dryness also had a comparatively low prevalence rate. Prevalence rate of insomnia was reported to be very low indeed (<1.0%).

Table 8. **MEAN NUMBER of MENOPAUSE SYMPTOMS PER INDIVIDUAL.**

<table>
<thead>
<tr>
<th>Menopausal status</th>
<th>number of symptoms</th>
<th>Sd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>0.84</td>
<td>1.38</td>
</tr>
<tr>
<td>PERI</td>
<td>2.10</td>
<td>1.41</td>
</tr>
<tr>
<td>POST</td>
<td>1.55</td>
<td>1.43</td>
</tr>
<tr>
<td>HYST</td>
<td>1.73</td>
<td>1.45</td>
</tr>
</tbody>
</table>

(F 7.01, df 3, p<0.0002)

ii. Symptom prevalence rate per individual. (Table 9).

Women who defined themselves as belonging to the premenopausal group did report that they had some symptoms, mean 0.84, (Sd.1.38) each. Perimenopausal women reported the most symptoms each, [mean 2.10,
Sd.1.41) and postmenopausal women had fewer symptoms each (mean 1.55, (Sd.1.43) each) than perimenopausal women. Hysterectomised women had more symptoms each than all other groups except perimenopausal women, mean 1.73, (Sd.1.45) each.

Table 9. PREVALENCE RATE of MENOPAUSE SYMPTOMS.

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>hot flushes</td>
<td>59</td>
<td>25.0</td>
</tr>
<tr>
<td>menorrhagia</td>
<td>46</td>
<td>19.5</td>
</tr>
<tr>
<td>fatigue</td>
<td>25</td>
<td>10.6</td>
</tr>
<tr>
<td>anxiety/tension</td>
<td>12</td>
<td>5.1</td>
</tr>
<tr>
<td>vaginal dryness</td>
<td>10</td>
<td>4.2</td>
</tr>
<tr>
<td>insomnia</td>
<td>2</td>
<td>0.8</td>
</tr>
</tbody>
</table>

n=82 (34.75%) women reported no symptoms of menopause.

iii. Experience of symptoms by menopausal status. (Table 10)

Perimenopausal women suffered the most symptoms. Postmenopausal women followed. Premenopausal women suffered the least. Since the age at hysterectomy was not recorded even though most women had intact ovaries it is difficult to evaluate figures for menorrhagia, but hot flushes was the most commonly reported symptom followed not very closely by vaginal dryness and then fatigue. Anxiety and insomnia reporting were the least reported when menorrhagia was excluded.

Table 10. PROPORTION of EACH SYMPTOM BY MENOPAUSAL STATUS GROUP.

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>PRE %</th>
<th>PERI %</th>
<th>POST %</th>
<th>HYST %</th>
<th>SIG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>hot flush</td>
<td>13.7</td>
<td>50.0</td>
<td>60.8</td>
<td>65.0</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>menorrhagia</td>
<td>16.4</td>
<td>22.7</td>
<td>20.6</td>
<td>13.3</td>
<td>NS</td>
</tr>
<tr>
<td>fatigue</td>
<td>17.8</td>
<td>40.9</td>
<td>12.2</td>
<td>21.7</td>
<td>p&lt;0.025</td>
</tr>
<tr>
<td>anxiety</td>
<td>15.1</td>
<td>31.8</td>
<td>10.8</td>
<td>25.0</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>insomnia</td>
<td>9.6</td>
<td>36.4</td>
<td>16.2</td>
<td>23.3</td>
<td>p&lt;0.02</td>
</tr>
<tr>
<td>vaginal dryness</td>
<td>11.0</td>
<td>27.3</td>
<td>35.1</td>
<td>25.0</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>TOTAL</td>
<td>83.6</td>
<td>186.6</td>
<td>155.7</td>
<td>173.3</td>
<td></td>
</tr>
</tbody>
</table>
iv. Vasomotor vs non vasomotor symptoms by menopausal status. (Table 11.)

Differentiating between vasomotor and non-vasomotor symptoms in the four menopausal status groups indicates that postmenopausal women have a prevalence of non-vasomotor symptoms not too dissimilar to premenopausal women, 39.2% and 42.5% respectively. Perimenopausal women have many more (40.9% fatigue, chi square 9.37, df 3, p<0.025: 31.8% anxiety, chi square 7.89, df 3, p<0.05: 36.4% insomnia, chi square 9.88, df 3, p<0.02)) and hysterectomised women have 70.0% (25.0% anxiety; chi square 7.89, df 3, p<0.05: 21.7% fatigue; chi square 9.37, df 3, p<0.025: 23.3% insomnia; chi square 9.88, df 3, p<0.02) of their total symptoms expressed as non-vasomotor symptoms.

v. Association of symptoms: Hot flushes by age.

Of the group of women aged 51 - 55 years, 72% experienced hot flushes. Of the oldest group, (56 - 65 years), 63.5% also reported experiencing hot flushes. Since the class interval for the second group is double that of the first, hot flushes are more strongly associated with the years 51-65, (chi-square 47.99, df 2, p<0.0001) than the years 40-50.

vi. Hot flushes by menopausal status

There was frequent reporting of hot flushes as a symptom of menopause in postmenopausal and hysterectomised women, but not in perimenopausal or premenopausal women (chi-square 46.08, df 3, p<0.001). (Table 7.) Although there was a positive linear association across the four groups (pre - peri - post - hysterectomy), only half of the perimenopausal women experienced hot flushes. Ten of the premenopausal women, 13.7%, reported hot flushes.

vii. Hot flushes by menopausal status by midlife assessment.

Nine premenopausal women reported hot flushes (14.3%), nevertheless they considered that their lives were 'fair' to 'first rate', most (55.6%) thinking
life was 'good'. This difference was not significant. Postmenopausal women formed the largest group to have hot flushes (60.6%). Of these women there was a tendency for those who thought that life was 'good' to be the ones who did not have hot flushes, ratio 71.4% : 65.1%, but there was no significant difference.

viii. Menorrhagia by age.

Heavy bleeding (menorrhagia) was not associated with any age group.

ix. Menorrhagia by menopausal status.

Reporting of menorrhagia ranged between 13.6 and 22% of premenopausal and perimenopausal women but no statistically significant association was found with either group.

x. Fatigue by age.

Of the three age groups, the oldest, 56 - 65 years had the least experience of fatigue but the association with fatigue with the oldest group was significantly less than the two other groups (chi-square 6.37, df 2, p<0.04).

xi. Fatigue by menopausal status.

Perimenopausal women reported fatigue significantly more than the other three menopausal status groups, 40.9% reporting that they suffered from it. Fewer postmenopausal women suffered fatigue; as a group only 12.2% reported it (chi-square 9.38, df 3, p<0.025).

xii. Fatigue by menopausal status by number of dependent children.

Most premenopausal women (57.1%) with 1-2 children or >2 children (66.7%) reported fatigue, as did 50.9% of postmenopausal women with no dependent children. Women with surgical menopause with no children (26.4%) or 1-2 children (25%) also were fatigued. Smaller numbers of perimenopausal women (16.7%) and women with hysterectomies (16.7%) reported fatigue. This finding was very significant. (chi square 46.34, df 6, p<0.0001.)

xiii. Fatigue by menopausal status by employment.

Premenopausal women who were in paid employment, both full time (52.7%) and part time (36.8%) reported fatigue. Postmenopausal women, both full time (23.6%) and part time (29.8%) also reported fatigue, as did (49.3%) who were not in paid work. Women with hysterectomies reported fatigue in the greatest numbers (49.3%) when not in paid work, although 24.6% in part
time work were also fatigued. All perimenopausal women in full and part time work reported fatigue, though the fatigued proportion of those working full time was greatest (61.5%). Of the women with surgical menopause those not in paid work reported fatigue in greater proportions (39.1%) than those who were part time (24.6%) or full time (9.1%) workers. The differences were all very significant. (chi square 43.37, df 6, p < 0.0001.)

Women in all menopausal groups who did not report fatigue were very evenly spread across working and non-working groups, and there were no significant differences.

xiv. Fatigue and number of social roles.

Excluding the marital role, women who experienced fatigue in their other social roles were those who were employed or who had dependent children, but most women did not report fatigue though this number did not reach significance as a proportion of the total.

xv. Anxiety by age.

There was a greater experience of anxiety in the 51-55 age group (28%) which did reach statistical significance. Anxiety decreased with increasing age with eight (10.8%) women reporting it in the 56-65 year group. Twenty two women aged 40-50 (20.2%) experienced anxiety (chi square 5.98, df 2, p<0.05).

xvi. Anxiety by menopausal status.

More perimenopausal and women with hysterectomies experienced anxiety than premenopausal women, 31.8% and 25.0% respectively (chi-square 7.89, df 3, p<0.05) and fewer postmenopausal experienced it (10.8%).

xvii. Vaginal dryness by age.

There was significantly more vaginal dryness among women in older groups (chi-square 13.47, df 2, p<0.001).

xviii. Vaginal dryness by menopausal status.

There was significantly less vaginal dryness in the premenopausal group, (chi-square 11.99, df 3, p<0.01) than the other three groups. Postmenopausal women reported the highest rate, 35.1%. Between these, 27.3% of perimenopausal women and 25% of hysterectomised women reported vaginal dryness.

xix. Insomnia by age.

There was no association between age and insomnia.
xx. Insomnia by menopausal status.

Of perimenopausal women, 36.4% reported insomnia significantly more than other groups (chi-square 9.88, df 3, p<0.02), but approximately one quarter (23.3%) of hysterectomised women also suffered insomnia. Premenopausal women (9.6%, n=7), reported the least.

xxi. Number of symptoms by education level.

The mean number of symptoms experienced by individual women in the six levels of education did not differ. (Table 12).

xxii. Employment status by number of symptoms.

The mean number of symptoms experienced by women in paid employment, both full and part time, did not differ from those not in paid employment.

xxiii. Summary.

The pattern of symptom reporting was consistent with most previous studies. The most prevalent of the vasomotor symptoms, hot flushes were associated with older age groups and postmenopausal women, though most women with hysterectomies also reported them. Half of the perimenopausal women experienced them and, surprisingly, so did 10 premenopausal women.

Table 12. EDUCATION LEVEL: SYMPTOM NUMBER per INDIVIDUAL.

<table>
<thead>
<tr>
<th>EDUCATION</th>
<th>mean</th>
<th>Sd.</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>school cert.</td>
<td>1.55</td>
<td>1.45</td>
<td>55</td>
</tr>
<tr>
<td>U. entrance</td>
<td>0.75</td>
<td>0.71</td>
<td>9</td>
</tr>
<tr>
<td>tertiary</td>
<td>1.51</td>
<td>1.56</td>
<td>79</td>
</tr>
<tr>
<td>post graduate</td>
<td>1.00</td>
<td>1.32</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>152</td>
</tr>
</tbody>
</table>

(F 0.7819, df 5, p=0.56. NS.)

The other symptom, vaginal dryness, was experienced by older women and in all groups except the premenopausal.

Younger women experienced more fatigue than did older women and perimenopausal women suffered more than the other three menopausal groups.

Anxiety was prevalent in the lives of perimenopausal and women with hysterectomies, as was insomnia.
Contrary to previous studies, there was no difference in the reporting of symptoms between employed and unemployed women, nor did symptom reporting differ at varying levels of education.

4.5. Mental Health; Consistency.

i. Demographic frequencies and mental health status.

Cross tabulations of mental health variables by marital status, education level, employment and dependent children are summarised in Table 13.

ii. GHQ, SCQ scores, and age by education level in 1997.

Women with the highest educational qualifications also had significantly lower levels of mental health in 1989 by GHQ measure, 6.80 (Sd. 5.72) (F 4.93, df 5, p<0.0001), but their self esteem which was the highest of all educational groups 157.56 (Sd. 25.08) (F 3.01, df 5, p<0.01), did not suffer. (Table 14).


There were 207 pairs to be compared; SCQ mean in 1989 was 145.15 (Sd 25.75) and SCQ mean in 1997 was 145.09 (Sd 24.20). The mean of the paired difference was 0.06 (Sd 21.94) (95% CI. -2.94, 3.07). Because the mean difference falls within the 95% confidence interval which also contains 1.0, the conclusion is that there is no difference between self-esteem scores in 1989 and 1997. (t=0.04, df 206, two-tailed, p<0.97).

iv. Midlife assessment and GHQ.

Women who rated their lives as 'first rate' or 'good' had good mental health but those who thought that life was either 'fair' or 'not so good' qualified as 'cases' on the GHQ-12, and the difference was significant, (F 4.03, df 4, p<0.004).

v. Midlife assessment and SCQ.

Similarly for women who self esteem was below average, ie. those who thought life was 'fair' or 'not so good'. Women who considered life to be 'good' were just above average in their self esteem scores, but those who thought life was 'first rate' scored very highly (158.78). Some women did not respond to this question, 15.3%, (n=36). When the cross tabulation was collapsed to binary ('first rate' and 'good' vs 'fair' and not so good') for the purpose of logistic
regression the difference in GHQ scores was significant (F 4.03, df 4, p<0.005), and for SCQ scores it was very significant, (F 10.67, df 4, p<0.0001).

Table 13. **DEMOGRAPHICS and MENTAL HEALTH: N = 236.**

<table>
<thead>
<tr>
<th>MARITAL STATUS</th>
<th>mean GHQ (Sd) 1997</th>
<th>mean SCQ (Sd) 1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>widowed</td>
<td>1.9 (0.3)</td>
<td>154.3 (17.7)</td>
</tr>
<tr>
<td>married</td>
<td>1.9 (0.5)</td>
<td>144.3 (24.4)</td>
</tr>
<tr>
<td>partnership</td>
<td>2.0 (0)</td>
<td>148.4 (33.4)</td>
</tr>
<tr>
<td>separated</td>
<td>2.0 (0)</td>
<td>112.3 (23.7)</td>
</tr>
<tr>
<td>divorced</td>
<td>1.9 (0.6)</td>
<td>153.1 (18.7)</td>
</tr>
<tr>
<td>single</td>
<td>2.1 (0.4)</td>
<td>147.8 (20.7)</td>
</tr>
</tbody>
</table>

**EDUCATION**

<table>
<thead>
<tr>
<th>EDUCATIONAL LEVEL</th>
<th>mean GHQ (Sd) 1997</th>
<th>mean SCQ (Sd) 1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>school certificate</td>
<td>1.8 (3.1)*</td>
<td>143.4 (25.7)</td>
</tr>
<tr>
<td>university entrance</td>
<td>0.7 (1.3)</td>
<td>151.6 (27.1)</td>
</tr>
<tr>
<td>tertiary</td>
<td>2.9 (4.4)</td>
<td>151.9 (23.2)</td>
</tr>
<tr>
<td>postgraduate</td>
<td>6.8 (5.7)</td>
<td>157.6 (25.1)</td>
</tr>
<tr>
<td>none</td>
<td>1.4 (2.6)</td>
<td>138 (25.8)</td>
</tr>
</tbody>
</table>

(F 6.1512, df 4, p<0.0001.) (F 3.7672, df 4, p<0.005.)

**EMPLOYMENT**

<table>
<thead>
<tr>
<th>EMPLOYMENT STATUS</th>
<th>mean GHQ (Sd) 1997</th>
<th>mean SCQ (Sd) 1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>full time</td>
<td>2.1 (0.5)</td>
<td>147.8 (25.2)</td>
</tr>
<tr>
<td>part time</td>
<td>1.8 (0.5)</td>
<td>139.6 (26.1)</td>
</tr>
<tr>
<td>none</td>
<td>1.9 (0.5)</td>
<td>148.2 (20.8)</td>
</tr>
<tr>
<td>volunteer</td>
<td>1.9 (0.5)</td>
<td>147.7 (23.6)</td>
</tr>
</tbody>
</table>

NS. NS.

**DEPENDENT CHILDREN**

<table>
<thead>
<tr>
<th>DEPENDENT CHILDREN</th>
<th>mean GHQ (Sd) 1997</th>
<th>mean SCQ (Sd) 1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>none (54.20%)</td>
<td>2.1 (3.4)</td>
<td>146.4 (25.2)</td>
</tr>
<tr>
<td>one - two (32.20%)</td>
<td>2.2 (3.7)</td>
<td>142.9 (25.8)</td>
</tr>
<tr>
<td>three or more (5.90%)</td>
<td>4.3 (5.8)</td>
<td>145.7 (29.9)</td>
</tr>
</tbody>
</table>

NS. NS.
vi. GHQ scores 1989 and 1997 (Table 15).

Women who scored >4 on the GHQ-28 in 1989 and GHQ-12 in 1997 and thus qualified as 'cases' totalled 41 (17.37%). Twenty seven (11.4%) were 'cases' in 1989 and there were 5.9% (n=14) women who were 'cases' in 1997. The 1997 GHQ found 29 (12.7%) women who qualified as new 'cases' in 1997.

Women who were 'cases' in 1989 were not more likely to be 'cases' in 1997.


It was possible to compare SCQ score in 1989 with SCQ score in 1997 by menopausal status in 1997 by means of paired t-tests. There were 64 premenopausal women with no statistical difference in SCQ score (t=0.41, df 63, two-tailed, p<0.68) (mean diff. 1.04, 95% C.I. -4.01, 6.09).

Twenty two women who were perimenopausal in 1997 had no statistical difference between their 1997 SCQ scores (0.68, Sd. 1.21) (t = -1.13, df 19, two-tailed, p<0.28) and their 1989 score (mean diff. -3.65, 95% C.I. -10.44, 3.14).

Sixty two women who were postmenopausal in 1997 did not differ statistically in their 1989 SCQ score, 150.12, (Sd. 22.79) and 1997 SCQ score, 146.77, (Sd. 22.23) (t =1.37, df 61, two-tailed, p<0.18, (mean diff. 3.34, 95% C.I. -1.55, 8.22).

Hysterectomised women had no significant mean difference in SCQ scores in 1989, 140.90 (Sd. 24.92) and 1997, 144.37 (Sd. 25.14) but as there was no indication when they had had their surgery, this suggests little about its influence if any, or whether it had the potential to change their self-esteem scores in the intervening eight years.


Self esteem was not statistically associated with any symptoms of menopause.

ix. SCQ score in 1989 by midlife assessment 1997. (Table 16).

Self esteem scores of women in 1989 showed a positive linear association, improving as quality of midlife assessment rose, except for the three women who thought that life was "grim" but had a higher than average self esteem score 150.09, (Sd. 40.62), (F 6.04, df 4, p<0.0001).

x. GHQ score in 1989 by non-vasomotor symptoms of menopause in 1997.

Fatigue as a symptom of menopause was more common in those women who had higher GHQ scores in 1989, (F 5.72, df 1, p<0.02); anxiety also
was associated with higher 1989 GHQ scores 3.43 (Sd. 4.60) (F 6.43, df 1, p<0.02) and insomnia also, 3.74 (Sd. 4.43) (F 9.55, df 1, p<0.0025). GHQ did not appear to be associated statistically to the vasomotor symptoms of menopause.

Table 14.

EDUCATION LEVEL and MENTAL HEALTH and SELF ESTEEM. (1997).

<table>
<thead>
<tr>
<th>EDUCATION LEVEL</th>
<th>mean GHQ.</th>
<th>mean SCQ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>none (35.6%)</td>
<td>1.9 (0.4)*</td>
<td>141.5 (22.7)*</td>
</tr>
<tr>
<td>school cert. (23.3%)</td>
<td>1.9 (0.6)</td>
<td>143 (25.7)</td>
</tr>
<tr>
<td>university entr. (3.8%)</td>
<td>2.1 (0.6)</td>
<td>159.1 (27.1)</td>
</tr>
<tr>
<td>tertiary (33.5%)</td>
<td>1.9 (0.5)</td>
<td>149.1 (23.5)</td>
</tr>
<tr>
<td>post grad. (3.8%)</td>
<td>2.1 (0.8)</td>
<td>141.4 (26.6)</td>
</tr>
</tbody>
</table>

*Sd. in parentheses.


<table>
<thead>
<tr>
<th>GHQ status</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>both low &lt;2, &lt;4</td>
<td>153</td>
<td>64.80</td>
</tr>
<tr>
<td>was high (not now)&gt;4</td>
<td>27</td>
<td>11.40</td>
</tr>
<tr>
<td>high now (new)&gt;2</td>
<td>30</td>
<td>12.70</td>
</tr>
<tr>
<td>still high (case)&gt;2,&gt;4</td>
<td>14</td>
<td>5.90</td>
</tr>
<tr>
<td>missing</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

(chi square 3.03, df. 1, p<0.082)

Table 16. MIDLIFE SELF-ASSESSMENT, MENTAL HEALTH and SELF-ESTEEM.

<table>
<thead>
<tr>
<th>Self Assessment 1997</th>
<th>GHQ 1989</th>
<th>SCQ 1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>first rate</td>
<td>1.41 (2.53)</td>
<td>158.78 (18.32)</td>
</tr>
<tr>
<td>good</td>
<td>2.19 (3.68)</td>
<td>146.90 (21.94)</td>
</tr>
<tr>
<td>fair</td>
<td>3.41 (4.28)</td>
<td>130.47 (26.03)</td>
</tr>
<tr>
<td>not so good</td>
<td>2.11 (3.62)</td>
<td>116.25 (29.81)</td>
</tr>
<tr>
<td>grim</td>
<td>6.33 (10.97)</td>
<td>168.00 (n=1)</td>
</tr>
</tbody>
</table>

N = 236

NS. (F 10.6698, df 4, p<0.0001)
xi. Summary;

In general, results in 1997 relevant to the symptoms of menopause transition were in accord with 1989 mental health findings. The women experiencing the non-vasomotor symptoms of menopause in 1997 had had higher GHQ scores in 1989. Comparison of the GHQ scores of women in the various marital status groups demonstrated that there was very little variation. SCQ scores were more variable, widowed (154.33, Sd 17.65) and divorced women having similarly high scores with partnered, single and married (144.32, Sd 24.38) women below them and separated women having the lowest scores (112.33, Sd 23.69) but there was no statistically significant difference.
5.0. Marital Harmony. (Table 17.)

i. Agreement with husband/partner.
   When questioned about whether they shared values and priorities 76.3% (n=180) of women affirmed that this was, in fact, the case. A negative response was given by 7.2% (n=17), and 16.7% (n=39) women did not answer. This latter group were women who did not have partners.

ii. Personal decision status within household.
   Major decisions were jointly made by most women with a partner/husband, 72.9% (n=172), though 19.1% (n=45), said that they alone made major personal decisions. This latter number includes the 39 not in a relationship. Nine women, 3.8%, stated that their husband/partner made major decisions alone.

iii. Harmonious partnership/marriage.
   When asked whether they found their relationship with their partner/husband "very," "quite" or "not satisfying" 41.9% (n=99) said "very satisfying", 33.9% (n=80) said "quite satisfying" and 3.8% (n=9) were not satisfied; however 48 of the women did not respond to this question.

iv. Marital harmony and mental health. (Table 17).
   High marital harmony was statistically linked to good self esteem and better mental health than the other two categories ("quite" or "not satisfying"). Women who found their relationship "quite satisfying" had the lowest mental health.

Table 17. MARITAL HARMONY and MENTAL HEALTH.

<table>
<thead>
<tr>
<th>Marital harmony</th>
<th>mean GHQ (Sd)</th>
<th>mean SCQ (Sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very satisfying</td>
<td>1.41 (3.05)</td>
<td>150.06 (25.76)</td>
</tr>
<tr>
<td>quite satisfying</td>
<td>3.74 (4.60)</td>
<td>137.67 (24.04)</td>
</tr>
<tr>
<td>not satisfying</td>
<td>1.89 (2.62)</td>
<td>132.22 (31.42)</td>
</tr>
</tbody>
</table>

(F 8.2066, df 2, p<0.0004) (F 6.0527, df 2, p<0.003)

v. Marital harmony and menopausal status.
   There was no association of marital harmony with menopausal status. When menopausal groups were compared, those who found their...
marriage/partnership "very satisfying" formed 54.6% (n=95) and 40.8% (n=71) found it "quite satisfying". Few (4.6%, n=8) were discontented, ie. finding their relationship "not satisfying", but perimenopausal women tended to be less satisfied than the other three groups.

5.1. Health status; general.

i. Subjective health status by number of symptoms of menopause.

Five states of health ("very healthy", "above average", "average", "below average" and "in poor health") were compared to the number of menopause symptoms experienced. The mean number of symptoms increased as the assessment of health decreased, with those having below average health having more than twice as many symptoms as those women who considered themselves to be very healthy (F 5.44, df 4, p<0.04). Very few (5.1%) women perceived their health to be "poor" or "below average"; thus 92.7% thought of themselves as having "average" health or "better than average."

ii. Frequency of GP visits.

Table 18.

<table>
<thead>
<tr>
<th>VISIT FREQUENCY</th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>monthly</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>3 monthly</td>
<td>74</td>
<td>31.4</td>
</tr>
<tr>
<td>6 monthly</td>
<td>48</td>
<td>20.3</td>
</tr>
<tr>
<td>yearly</td>
<td>53</td>
<td>22.5</td>
</tr>
<tr>
<td>very rarely</td>
<td>51</td>
<td>21.6</td>
</tr>
</tbody>
</table>

* 78.4% (n=185) reported no change in this visiting pattern in the previous decade

iii. Subjective health status by GP visits.

Subjective rating of good health status was associated with a corresponding rate of GP visits, ie. healthier women had fewer visits overall. The pattern of visiting a GP varied little over all age and menopausal status groups. (Total responding, N=182). Even those who said that their pattern of visiting had changed in the last 10 years, 93.8% (n=49), rated their health as average or better than average (chi-square 129.54, df 16, p<0.001).
Women who considered themselves to have average or above average health (36.3%) visited a GP at least three monthly; there were only six people who considered themselves to be below average or in poor health, and two of these visited a GP six monthly or less often; this was in all cases their usual GP visiting pattern. Of those who had changed their pattern of GP visiting in the last 10 years and increased it to three monthly or more often, 10 women considered that their health was average or better than average. Fifteen women who had changed their visiting pattern to six monthly or less often thought that they had average health or better (chi-square 35.86, df 12, p<0.0001).

iv. Age by GP visits.

Those in the middle age group, 51-55 years visited their GP in the smallest numbers, 21.6%, and the youngest age group, 40-50 years visited in the greatest numbers, 47.2%. The regularity of visits did not differ much but the number visiting monthly was very small, 3%, (n=7) and of these four were between ages 51-55 years (chi square 20.23, df 8, p<0.01).

v. Symptoms of menopause by GP visits.

The mean number of symptoms experienced was not associated with the frequency of visits to a GP.

vi. Menopausal status by GP visits by hot flushes.

Premenopausal women who experienced hot flushes tended to visit a GP in greater numbers (86.3%) than those who did not (13.7%), at least three monthly and six monthly or less often. However there was not an association between visits to a GP, menopausal status or hot flushes. Perimenopausal women with hot flushes visited a GP in fewer numbers (38.9%) than those who did not have them (61.1%), but visiting was six monthly or less often. But perimenopausal women with hot flushes did visit three monthly or more often whereas those who did not have this symptom did not visit three monthly (or more often) at all. Numbers were however all small (n=22), but there was a significant association between the two variables (GP visits, hot flushes) when menopausal status was the dependent variable. (chi square 4.89, df 1, p < 0.03.)

vii. Marital status by GP visits.

In an attempt to assess women's health and wellbeing outside of an intimate relationship with a partner/husband, GP visits were cross-tabulated with marital status. Of the total number of married women (N=188), 33% (n=62) visited a GP three monthly or more often, as did 62.5% (n=16) of
widows. This means that more married women, two thirds, \((n=126)\) visited less frequently than three monthly. Across all marital status groups, 34.9\% \((n=81)\) women visited a GP three monthly or more often. Of the total number of women who visited 6 monthly or less frequently, 62.5\% \((n=151)\), married women constituted 83.4\%; whereas only 4\% were widowed and 4\% were divorced. The remaining 4.6\% were partnered (2.6\%), or separated (2\%).

5.2. Menopausal status: Psychological.

i. Emotion at menopause. (Table 19).

Question 41 (CAM) asked, "which best describes your feelings (at menopause)?" Most women, 53.3\% \((n=98)\) endorsed the response "relief"; 23.9\% \((n=44)\) said they felt "neutral" and 20.1\% \((n=37)\) said they had "mixed" feelings. Five women had felt "regret", (2.7\%). Although the question allowed for a prospective answer fifty two women did not respond to this question.

ii. Evaluation of change in sexual attractiveness by menopausal status.

(Table 20)

There was a negative linear relationship between the degree of attention given to changes in sexual attractiveness and menopausal status, indicating that consideration of this attribute becomes a little more focused as the menopause transition approaches and then beyond into the postmenopausal stage. Women who had had a hysterectomy had given more thought to this than the other groups (45.8\%, \(n=50\)) and premenopausal women the least (28.9\%, \(n=28\)) but most women (73.4\% \(n=168\)) reported that they had given this idea no thought at all (chi square 9.44, df 3, \(p<0.025\)).

iii. Beliefs about actual change in sexual attractiveness by menopausal status.

Few women believed that women's sexual attractiveness was changed by menopause, though fewer premenopausal women (35.6\%) thought so than other groups. Increasing numbers of postmenopausal, perimenopausal and hysterectomised women, (50\%, 63.6\%, 73.3\% respectively) thought that there was no change (chi-square 20.07, df 3, \(p<0.001\)). Two postmenopausal women felt that sexual attractiveness increased because consequent lack of fear of pregnancy gave women confidence to take the initiative in sexual matters. Three women stated that sexual attractiveness was of little importance in the later part of a good married relationship.
Table 19.  EMOTION AT MENOPAUSE (LMP): %.*

<table>
<thead>
<tr>
<th>STATUS</th>
<th>REGRET</th>
<th>RELIEF</th>
<th>MIXED</th>
<th>NEUTRAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre.  oo</td>
<td>-</td>
<td>31.6 (n=12)</td>
<td>26.3 (n=10)</td>
<td>42.1 (n=16)</td>
</tr>
<tr>
<td>peri.</td>
<td>-</td>
<td>29.4 (n=5)</td>
<td>47.1 (n=8)</td>
<td>23.5 (n=4)</td>
</tr>
<tr>
<td>post.</td>
<td>-</td>
<td>53.4 (n=39)</td>
<td>16.4 (n=12)</td>
<td>30.1 (n=22)</td>
</tr>
<tr>
<td>hyst.</td>
<td>8.9 (n=5)</td>
<td>75.0 (n=42)</td>
<td>12.5 (n=7)</td>
<td>3.6 (n=2)</td>
</tr>
</tbody>
</table>

(chi square 46.67, df. 9, p<0.0001)

*22% (n=52) women did not answer this question.  oo prospective answers.

Table 20.

MENOPAUSAL STATUS of WOMEN WHO THOUGHT SEXUAL ATTRACTIVENESS REMAINS UNCHANGED. (%).

<table>
<thead>
<tr>
<th>Menopausal Status</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>26</td>
<td>35.6</td>
</tr>
<tr>
<td>PERI</td>
<td>14</td>
<td>63.6</td>
</tr>
<tr>
<td>POST</td>
<td>37</td>
<td>50.0</td>
</tr>
<tr>
<td>HYST</td>
<td>44</td>
<td>73.3</td>
</tr>
</tbody>
</table>

(chi square 20.07, df. 3, p<0.0002)

iv. Evaluation of menopause: Mental health. (see q. 50, CAM, APPENDIX 5)

When GHQ scores were cross-tabulated with the statement that "menopause would/will be a time of great change" a significant difference between beliefs about the menopause transition emerged. Those women with a higher GHQ score 1.45 (Sd. 2.58) thought that it was or would be a time of great change (F 5.11, df 1, p<0.03), those who were anticipating (premenopausal) or had noticed (postmenopausal) no great change had a lower GHQ score, 0.76 (Sd. 1.78). When asked if they thought menopause would/had been "the beginning of a better stage in my life" those with higher or lower GHQ scores did not differ. There was a positive linear association between menopausal status and the expectation that life will improve with the approach and passage through menopause.
When asked if they considered that menopause "was/will be just the beginning of another stage in my life" those with lower GHQ scores, 0.43 (Sd. 1.08) disagreed, (F 4.64, df 1, p<0.03).

When asked if they thought that "gains will be greater than losses" there was no difference in GHQ score of women who agreed or disagreed. Accordingly there was no difference in women's GHQ scores between agreement and disagreement with the converse statement that "losses will be greater than gains."

When asked if they thought that menopause "was/will be the beginning of the end" there was no difference between GHQ scores of women opting for or against this statement. Most women, 97.4% (n=227), did not think that menopause "is/was the beginning of the end." Nor that "losses will be greater than gains" when associated with age, 95.3% (n=222).

The final statement in the question specifically seeking beliefs (CAM q. 50) asked women if they endorsed the notion that "nothing much actually happens at menopause apart from my periods stopping"; those who did think that menopause was something of a non-event, 65.2% (n=152), had significantly lower GHQ scores 0.44 (Sd. 1.23) (F 7.70, df 1, p<0.001). When age was a factor there was a positive trend toward tolerance and acceptance of menopause with increasing age ie. women's expectation/opinion that menopause is a non-event is more evident as they get older.

v. Benefits of menopause changes by menopausal status.

Fewer premenopausal women, 20.5% (n=15), than the other three groups agreed that "gains will be greater than losses" (chi-square 8.72, df 3, p<0.03). There was very little difference between the other menopausal groups in the percentage who agreed with this statement (range: 40% - 40.9%).

When beliefs about the benefits of menopause were examined by age two thirds (n=154) did not think that "gains will be greater than losses" but of those who agreed, most, 41.8%, were in the 56-65 age group. Contrary to previous pessimistic conjecture, (that there is much to lose at menopause), 36.7% of the youngest women endorsed the statement that "gains will be greater than losses". Those least accepting of the idea were the middle group, 51-55 years, forming 21.5% (n=17) of the total (chi-square 6.37, df 2, p<0.05). These were the only real differences in the beliefs about change associated with menopausal status and age.
vi. Benefits of menopause change by education levels.

Endorsement of menopause as "just the beginning of another stage" differed by education level. Those who rejected this idea, 57.1% (n=32), had no formal educational qualifications. Women who agreed, 71.1% (n=180), had better educational qualifications. Twenty four educated women rejected this notion and 84 without educational qualifications (61.9%) affirmed it (chi-square 14.88, df 2, p<0.001).

vii. Benefits of menopause change by SCQ.

Those women who thought that there were benefits of life change at menopause had a significantly higher self-esteem score, 149.78 (Sd. 21.76) (F 4.21, df 1, p<0.04). There was no significant age difference in women's' self-esteem.

viii. Menopausal status and GHQ.

Premenopausal women had a significantly higher mean GHQ-12 score than the other three groups, 1.47 (Sd. 2.63). Postmenopausal women emerged with the lowest mean score, 0.58 (Sd. 1.37) indicating better mental health (F 2.98, df 3, p<0.03)

ix. Menopausal status and SCQ.

There were no differences in self esteem scores between the four menopausal groups.

tax. Menopausal status by midlife assessment.

Women who considered their lives to be 'good/first rate' ranged across all menopausal groups; premenopausal (71.4%), perimenopausal (85.7%), postmenopausal (88.6%) and surgical menopause (75%). However 20.5% of the sample chose the other options, 'fair/ not so good' and of these 28.6% were premenopausal, and 25% had a surgical menopause. Between these 14.3% were perimenopausal and the smallest number, 11.4% were postmenopausal. These numbers did not quite reach significance. Menopausal status was not associated to ratings of midlife.

xi. Marital status and midlife assessment.

Women who rated their lives most highly ('first rate/good') were spread across all marital status groups with separated women appearing in less numbers than the others, but they were the highest number rating their lives as 'fair/ not so good'. Four women listed themselves as separated with two in
each group. These numbers did not reach significance overall. Of the 24 women in second (or more) marriages, most (70.8%) rated their lives highly, (n=17) and 29.2% did not, (n=7). These were not a significant numbers.

xii. Education level, paid employment, and financial comfort and midlife assessment.

There were no significant differences in the higher and lower life ratings across educational levels, nor employment status but financial comfort was positively correlated with a higher rating of midlife (R 0.21, p<0.0006) ie. reported comfort rose as rating of midlife became higher.

xiii Conflict of values, marital status, joint decision making and midlife assessment. (q. 13 CAM)

Of the women who rated their lives highly, (n=184), 90.8% shared values and priorities with their partner, (n=167). Some (n=27) who did not rate their lives well also had shared values and priorities (16.2%). Fifty-two women did not answer this question. Differences were significant (chi square 7.60, df 2, p<0.02)

Shared values as a variable was positively correlated (R 0.20, p<0.004) ie. when values and priorities were shared then midlife assessment rating rose.

xiv. Financial comfort and midlife assessment and subjective health. (q. 14 CAM)

Most women considered their financial situation to be comfortable, (n=151) 71.2%, though 15.9% thought their lives were 'fair/not so good', (n=24). Three women (1.8%) thought they were in difficulty financially but rated their lives highly and 60% who rated their lives highly thought their finances were 'restricted'. These were significant differences (chi square 15.03, df 3, p<0.002) and these variables were negatively correlated (R -0.21, p<0.001). Financial comfort was not much influenced by the amount of women's own income since most women were comfortable (n=162) even those with small incomes. There were some who were on incomes of $30,000 who thought they were restricted, but not many (n=4), 7.5%. Most of those who felt financially restricted were on an income of $29,999 or less, (n=49), 92.4%. The difference was significant (chi square 23.29, df 7, p<0.002). Financial comfort (R -0.20, p<0.002) was negatively correlated with subjective health (R -0.14, p<0.02) when evaluated with midlife assessment ie. as the perception of comfort decreased so did the self assessment of women's own health.
xv. Decision making, shared values and midlife assessment. (q. 17. CAM)

Most women (n=161) reported that decisions were jointly made with a partner/husband, 74.9%, though some (n=27) did not rate their lives highly. Of the small number whose partner/husband made major decisions alone (n=10), seven (70%) rated their lives highly. These were significant differences. (chi square 7.85, df 3, p<0.05). Shared values was positively correlated with joint decision making (R 0.20, p<0.004). Joint decisions were made by women who shared values and priorities with their partner/husband. Twenty one women did not respond to this question.

xvi. Subjective health, GHQ-12 'case,' and midlife assessment.

Since only 11 women considered their health to be below average or poor, the remainder who rated their lives as 'fair/ not so good', (n=38) were in good health or better (40%). Five women who were in below average health still thought that their lives rated well, (2.9%). These were significant differences (chi square 13.62, df 4. p< 0.01). Subjective health (R -0.10, p<0.04) and a GHQ score which could be defined as a 'case' were negatively correlated (R -0.31, p<0.0001). The degree of 'caseness' rose as the self perception of health fell.

xvii. GP visits, subjective health and midlife assessment.

Visits to a GP were not associated with midlife assessment, nor was having dependent parents, but subjective health was weakly correlated with GP visits (R 0.1, p<0.4) ie. the self perception of health status agreed with the number of visits to a GP.

xviii. Summary.

When women's attitudes to the domains of relationships, employment and health were evaluated by multivariate methods, using the midlife assessment variable as the (bi modal) dependent variable, the analysis reinforced the findings made with the GHQ and SCQ variables. Subjective health (R 0.16, p<0.008), financial comfort (R 0.22, p<0.0006) and values and priorities (R 0.11, p<0.04) were all positively correlated with midlife assessment. These re-emphasised that, generally, the sample were in good health and spirits and most were coping with any changes in their health or their circumstances during the menopause transition. The women whose mental health had deteriorated since 1989 were aware of this since their perception of their own health and their GHQ-12 score was negatively correlated (R -0.33, p<0.0001).
5.3. Health Status: Medication.

i. Over-the-counter (OTC) medication/prescribed medication.

Medication of some kind was taken by 56.4% (n=133) of all women. Supplements of vitamins/minerals were taken by 24.2% (n=57) and those women with a chronic illness requiring medication made up 27.5%. (These illnesses were listed as "diabetes/hypertension/asthma/other?")

ii. Psychotropic medication.

Nine women (2.1%) were taking drugs for a psychological disorder. One of these women stated quite explicitly that this was a long term disorder and had nothing to do with menopause. Four women were premenopausal, one was postmenopausal and four had had a hysterectomy.

5.4. Menstrual History: Menarche.

i. Mean age at menarche.

Although the age of menopause has been found to be very stable over time, the age of menarche has become earlier in certain circumstances (Khaw, 1992). The mean age of menarche for this sample was 12.7 (Sd. 1.70) years. Median age of menarche was 13 years.

In response to the question about the information they had before menarche, "did you know about menstrual periods before they commenced?" 72.9% (n=172), said that they did and 24.6% (n=58) said that they did not. Six women did not answer this question.

ii. Source of information about menarche.

When asked who of a possible range of people (see CAM, q. 35) "first told you about menstrual periods and reproduction", 65.7% (n=155) said that their mother had been the primary source of this information, 13.1% (n=31) said that it had been a friend, 7.2% (n=17) said it had been a sister and 5.1% (n=12) said a teacher or health professional as formal instruction. Those who had no prior knowledge at all (n=8), made up 3.4%.

iii. Acceptance of menarche.

There were five options available in response to the question "how did you feel when your period started" (see CAM, q. 34). Most, 40.3% (n=95) said "neutral", 19.5% (n=46) had been "upset", 13.6% (n=32) had been "distressed"
and 12.7% (n=30) responded that they had been "pleased." Some, 8.9% (n=21) said that they had been "relieved".

5. 6. Premenstrual Syndrome (PMS).

Women were asked two questions about PMS; if they suffered from it in its severe form, "out of control for part of your cycle," which is now called Premenstrual Dysphoric Disorder (PDD), how often; and if they had sought professional help in treating it.

i. Prevalence rates of Premenstrual Syndrome (PMS). (Table 21).

The number of women (n=93) reporting that they suffered PMS "occasionally" was 39.4 %; the proportion of participants who reported suffering from PMS "frequently" was 21.8% (n=51). Most women, 35.6% (n=84), said that they did not suffer PMS "at all". The question immediately following asked if PMS sufferers had sought professional help for this condition; 11.9% of sufferers said that they had done so. (Many women did not answer the first question about PMS, and consequently the second was redundant for them, 30.5% (n=72)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>84</td>
<td>35.6</td>
</tr>
<tr>
<td>occasionally</td>
<td>93</td>
<td>39.4</td>
</tr>
<tr>
<td>frequently</td>
<td>51</td>
<td>21.8</td>
</tr>
<tr>
<td>(missing)</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

ii. PMS by subjective health status.

Reported PMS was not significantly associated with women's own evaluation of their health; it seemed that even suffering from PMS frequently did not alter women's perception that their health was average or better which may explain why so few sought professional help for this condition.

iii. PMS by SCQ score.

When self-esteem scores were scrutinised in the context of PMS there was a negative linear trend toward lowered self esteem with the increasing frequency of suffering from PMS, but it did not reach statistical significance.
iv. PMS by GHQ-12 score.

Suffering from PMS "frequently" was associated with a higher GHQ score than the other options, 1.71 (Sd. 2.91); those women suffering PMS "occasionally" 0.94 (Sd. 1.85), and those with no experience of PMS was 0.52 (Sd. 1.43), (F 5.73, df 2, p<0.004).

v. PMS by knowledge of menarche.

There was no association between having been prepared for menarche and the later development of PMS.

vi. PMS by acceptance of menarche.

Neither negative or positive feelings at the commencement of menstruation and later suffering of PMS were associated.

vii. PMS by fatigue as a symptom of menopause.

Women who reported PMS also reported significantly more fatigue as a symptom than women who did not have PMS. (chi square 14.11, df 2, p<0.001).

viii. PMS by anxiety as a symptom of menopause.

Anxiety was reported significantly more by women who suffered from PMS (chi square 8.03, df 2, p<0.02).

ix. PMS by other symptoms of menopause.

Though not significant there was a trend toward more reporting of both insomnia and vaginal dryness as the frequency of PMS increased.

i. Self-efficacy.

Question 53 of the CAM questionnaire (see APPENDIX 6) asked for a response to the query about self-evaluated ability to change "something of great personal importance in your life"; did women feel they had the capacity to do this.

The biggest group of women replied with an unqualified affirmative, 44.9% (n=106). Many felt they could with help, 28.8% (n=68), and 4.2% (n=10) gave an unqualified "no". The option allowing for possible indecision as well as a direct answer, "haven't thought about it", was endorsed by 19.5% (n=46). Six women did not answer this question.

ii. Self-efficacy by menopausal status.

Although the greatest number of women felt able to make important changes in their lives unaided (45.7%, n=102) there was no association with their menopausal status. The largest group were postmenopausal (33.2%, n=74), but they were closely followed by the premenopausal group (30.9%, n=69). Women with surgical menopause were next (26.5, n=59) and the smallest group of self-efficacious women were perimenopausal (9.4%, n=21).

iii. Self-efficacy by SCQ score.

An analysis of variance found that there was evidence of a very significant difference in the SCQ scores of those women who gave affirmative or negative answers to the above question about personal capacity for effecting change. Self-esteem was much higher in those who said "yes", 152.31 (Sd. 21.91) when compared to those who said "no" 117.00 (Sd. 21.44). Those who said that they would need help to change their lives, 140.39 (Sd. 25.39) had scores which were little different from those who said they "hadn't thought about it", 142.66 (Sd. 21.75) (F 7.06, df 4, p<0.0001).

iv. Self-efficacy by GHQ score.

When self-evaluated ability to change was compared with GHQ scores another very significant difference emerged. Those who had given the idea no thought had a much lower GHQ score 0.311 (Sd. 0.633) - (better mental health) - than those giving negative answers (felt unable to change) 3.50 (Sd, 3.95). Those who said they could change also had a very low GHQ score 0.53 (Sd. 1.42). Those who said they would need help to change had a higher GHQ score 1.62 (Sd. 2.58) than those who felt they could effect change unaided, but
not as high as those who felt they had no power to change (F 9.17, df 4, p<0.0001).


i. Introspection vs social perspectives.

Ranking by importance of four personal perspectives were sought (see CAM, q. 52). These four possible perspectives were explained in the questionnaire, and examples given for guidance. "Feelings" emerged as the most important concern, "problems" were next, "people" followed, and "interests" were ranked last in importance.

ii. Interest in people by SCQ score.

The response to the question of whether "people" were most important (compared to "problems", "interests" or "feelings") was statistically significant when cross-tabulated with SCQ score. For those who gave an affirmative response ie. those who ranked "people" first, the mean SCQ score, 146.79 (Sd. 24.05) was higher than those who didn't consider that people were so important in their lives 137.35 (Sd. 23.78) (F 5.06, df 1, p<0.025)

iii. Significance of others; social perspectives.

The importance of family life greatly exceeded all other sociable factors for 67.8% (n= 60) of women, (see CAM, q. 48). A partner/husband's career was of prime importance for 8.9% (n=21). Cultural or spiritual life was most important for 5.1% (n=12) of women. Her own career came first for 3.8% (n=9) of women; friendships were most important for 3.4% (n=8) women and "service to others" was put first by 1.7% (n=4) women. Despite requiring to be ranked by importance this question gained a high response rate unlike qs 52, 55 and 56 of CAM which also required ranking by importance and were poorly answered.

iv. SCQ score by indecisiveness.

Women who "need advice frequently" have a significantly lower SCQ score than those who do not, 97.0 (Sd. 24.20) as opposed to 146.30 (Sd. 22.57) (F 4.12, df 2, p<0.02).
v. GHQ score by timidity/submission.

Women who reported that they "often give way in an argument for the sake of peace" had a significantly higher mean GHQ score 2.67, (Sd. 3.87) than those who stood firm, 0.87 (Sd. 1.91) (F 3.54, df 2, p<0.04), indicating that timidity is associated with lower mental health.

vi. SCQ score by capacity for social responsivity.

Women who said that they responded well to the good mood of others ("if others around me are happy, so am I") had a significantly higher SCQ score, 147.38 (Sd 22.51) than those who said that they did not, 137.02 (Sd 28.69). (F 3.15, df 2, p<0.05). Those with higher self esteem respond easily to the good affect of others.


i. Personal support: Confidantes.

In response to the query about whether there was a person to give social support in the form of somebody to confide in, there was greatest endorsement of a husband/partner as first confidante, 69.9% (n=165). As a proportion of those who had a husband or partner this is 87.77% . Having a friend, either male or female, as first confidante was endorsed by 14.4% (n=34), and a child was primary confidante for 4.7% (n=11). Twelve women (5.1%) said that they did not have a confidante of any kind. Friends formed 20.3% (n=48) of secondary confidantes, children were 11.9% (n=28) of secondary confidantes, and brothers and/or sisters, 8.5%, (n=20) filled this role also. Only one husband/partner was named in this position, as were six health professionals (2.5%)- parents or relatives made up 6.4% (n=15) of secondary confidantes.

ii. Social roles and menopausal status.

Table 22 gives the percentage of women in the various stages of menopausal status and their social roles. Well over half of perimenopausal women were in paid work and they did the most voluntary work as well: almost one third of these had dependent children. Almost half of the postmenopausal women were also in paid work and almost one fifth of these women had dependent children. One third of the postmenopausal women stated they were not in paid employment but none did voluntary work. Forty percent of women with hysterectomies were in paid work and one quarter of these had dependent children and one tenth had dependent parents. Over half
of the premenopausal women had dependent children but less than one quarter had paid work and just over a tenth had dependent parent(s). These figures exclude marriage or partnership roles.

Table 22. MENOPAUSAL STATUS % SOCIAL ROLES. (%).

<table>
<thead>
<tr>
<th>Role</th>
<th>Work unpaid</th>
<th>pd work</th>
<th>children</th>
<th>parents</th>
<th>vol. work</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>6.8</td>
<td>23.3</td>
<td>57.5</td>
<td>11</td>
<td>1.4</td>
</tr>
<tr>
<td>PERI</td>
<td>....</td>
<td>54.5</td>
<td>31.8</td>
<td>4.5</td>
<td>9.1</td>
</tr>
<tr>
<td>POST</td>
<td>32.4</td>
<td>48.6</td>
<td>18.9</td>
<td>....</td>
<td>....</td>
</tr>
<tr>
<td>HYST</td>
<td>23.3</td>
<td>40</td>
<td>25</td>
<td>10</td>
<td>1.7</td>
</tr>
</tbody>
</table>

NB. excludes marriage/partnership roles. (chi square 60.12, df 12, p<0.0001)

iii. Paid employment and GHQ-12 score.

Women in full time paid work had the highest GHQ score, 2.05 (Sd. 0.53) and women in part time work the lowest, 1.84 (Sd. 0.53). Women not in paid work fell between these scores, 1.89 (Sd. 0.46). These scores were close to statistical difference (F 2.94, df 2, p<0.6) Part time workers had the best mental health and full time workers the lowest.

iv. Paid employment and SCQ scores.

Both full time workers (147.84, Sd. 25.23) and women without paid employment (148.22, Sd. 20.83) had self esteem scores above the mean (145.17, Sd. 24.25). Women in part time work however were below the mean score, but the difference did not reach significance, (139.56 Sd.26.05) (F 3.01, df 2, p<0.06).

There was no difference in self esteem or mental health between women doing voluntary work and those who did not.

v. Life satisfaction. (Table 16. Midlife Self-assessment)

When asked about their assessment of their life "at present" 55.1% (n=130) rated their life as "good"; 17.8% (n=42) thought that life was "first rate" and 14% (n=33) considered it to be "fair". Nine (3.8%) women felt that their life was "not so good" and 0.8% (n=2) considered life to be "grim."

vi. Life satisfaction by menopausal status.

Although there was no significant difference between menopausal groups in their ratings of life satisfaction, 5.2% (n=11) felt it was "not so good" or worse and these were evenly spread between options (though numbers were
very small), but more postmenopausal women rated life as "good" (n=160, 38.1%). The group least likely to do this were perimenopausal women - 10.3%. Premenopausal women were most likely to state that life was 'fair' (43.8%). Twenty six women did not respond to this question. A few significant relationships are highlighted below.

vii. Life satisfaction by anxiety by menopausal status.

In general menopausal status was not associated with life satisfaction in women who said they were anxious. Some postmenopausal women (14.6%, n=7) declared that 'life was good' but also experienced anxiety as a symptom of menopause.

viii. Life satisfaction by hot flushes by menopausal status.

Being perimenopausal did have some association with life satisfaction for women who experienced hot flushes. There was a difference between the number of perimenopausal women who did and didn't have hot flushes and rated life as "good": this symptom of menopause appeared to detract from feelings of life satisfaction (chi-square 7.89, df 3, p<0.05).

ix. Life satisfaction: financial status.

Satisfaction with social status often depends on income. Seventy five per cent of women said that they had some financial contribution toward joint household expenditure from their husband/partner. Some women, 3.4% (n=8), stated that their partner/husband did not contribute financially to the upkeep of the household.

Most women, 69.5% (n=164) considered that they were financially "comfortable" and 3.4% (n=8) thought that they were "well-to-do". About one fifth of participants, (22%, n=52), considered themselves to be "restricted" financially. Six women (2.5%) thought that they were financially "in difficulty". Six people did not respond to this question.

i. Hormone Replacement Therapy (HRT).

Thirty four women were using hormone replacement therapy which is 14.5% of the total sample.

ii. HRT use by menopausal status.

There was an association between not using HRT and menopausal status. Of the women who did use it a third were postmenopausal (33.3%, n=11) and over half (57.6%, n=19) had had hysterectomies. Three premenopausal women (9.1%) used hormones in the form of oral contraceptives. There were no perimenopausal users of HRT. (chi square 24.48, df 3, p<0.0001).

iii. HRT use by marital status.

Married women were by far the greatest proportion of HRT users; 82.4%, (n=28). HRT use was not, however, statistically associated with marital status.

iv. HRT use by education level.

Half of the women using HRT had no stated educational qualifications - 50.0%, (n=17); all other users did, and 32.3%, (n=11) of those had at least tertiary qualifications. There was no association between education level and HRT use.

v. HRT use by personal income level.

There was a trend toward greater use of HRT by women on incomes of <$10,000 (43.3%, n=13). Women whose incomes were between $10,000 and $14,999 were second, (20%, n=6) but it did not reach statistical significance. (F 2.76, df 7, p=0.096. NS).

vi. Subjective health status and HRT.

Most women using HRT, 85%, (n=27) when assessing their own health considered it to be "average" or better. Six women (17.7%) who were using HRT thought that their health was below average, as did six women who were not using HRT (14.6%). The association between self evaluation of health and use of HRT did not (quite) reach significance (chi-square 9.67, df 4, p>0.05).
vii. GHQ score by use of HRT.

Women using HRT had a slightly higher GHQ score, 2.00 (Sd. 0.50) than those who did not 1.90 (Sd. 0.51) (F 3.90, df 1, p<0.06. NS) but the difference did not reach statistical significance. This means that HRT users had only slightly lower mental health than non-users.

viii. SCQ score by HRT use.

HRT users had a lower SCQ score, 139.15 (Sd. 25.02) than non users, 146.11 (Sd 23.99), but they did not differ significantly. Nevertheless, HRT users tended to have less self esteem than non-users.

ix. Age in 1997 by use of HRT.

The mean age of women utilising HRT in 1997 was 54.50 (Sd 5.93) years (F 6.93, df 1, p<0.0001).

x. Summary.

Most women who would have been eligible to use HRT probably were not doing so. This may be representative of some confusion or uncertainty of its costs and benefits, both among women themselves or the health practitioner whom they consult on a regular basis, their GP.
8. DISCUSSION

The 1997 CAM survey investigated current attitudes to menopause. Primary interest was in midlife women and their welfare, thus the climacteric which includes menopause, became the focus. Salient information was collected in order to describe the 'average' woman at midlife; her personal and social status, her health, both physical and mental, and her beliefs and attitudes to menopause. The hypothesis was that there would be some effect of the endocrine changes of menopause, as well as some effects of changing social responsibilities in her life reflected in her attitudes to, not only changing physiology, but also the influence of society.

Data already collected from the SCQ and GHQ-28 administered in 1989 to the same group of women, made it practicable to describe and quantify characteristics in this eligible population by means of a postal survey. The purpose was to obtain a statistical profile of the population in order to establish basic data about the prevalence of factors of interest surrounding menopause.

Retrospective cohort design utilised this fixed sample and took advantage of incorporating prior information. Retrospective design can however, suffer from attrition due to re-location, lack of response, or death. The main vulnerabilities here were re-location and non-responding.

Since the aetiology of natural menopause is known and menopause, whether natural or surgical, is universal, (though its manifestations are not) in that it is possible to have a relative risk of 100%, a cohort design which allows replication in the form of instruments re-used (GHQ and SCQ) strengthens internal validity. Utilisation of the same instrument with the same subjects also strengthens sensitivity. The inevitability of menopause also means that at some point all subjects will be exposed, though in an observational survey such as this only associations or inferences can be made; causality cannot be established.

The CAM questionnaire provided the major component of the survey and was cross-sectional. Selection was from a single target population which had originally been randomly selected from electoral rolls. It was also a large population which improved the power of representation and generalisability. There was some limitation set by this population having been sampled previously in the OWHS 1989, (they had reported no childhood sexual abuse and were therefore probably psychologically 'healthier' than average) but no distortion of results was expected because it was not thought that this would influence the study factor, outcome of exposure to menopause ie. there was selection bias but it was not considered to be a serious systematic error. Child
sex abuse is an aberration from the norm and although adverse effects are not inevitable it is unlikely to improve mental health.

Although response rate (54.76%) was not as high as was hoped it had sufficient statistical power to produce generalisable results. Response bias was minimised by using similar instruments GHQ-12 (1997) and GHQ-28 (1989). Varying the measuring instrument by using alternative forms of the same instrument increases reliability by reducing the effects of familiarity, though with eight intervening years the risk of this was low.

The chances of construct validity were enhanced by avoiding a duplication of measurement biases and errors. Construct validity is concerned with clarity of definitions used in the study eg the theoretical concept of 'health' may vary in the perception of the individual. 'Health' is an entity which is created by giving it a label but has different meanings for different people depending the value it has for each individual. In this context the construct 'self-esteem' is open to many definitions. (see Method) (One participant in this study pointed out that the GHQ was not a measure of 'general' health at all, but rather a measure of psychological health which in fact it is.) A well-defined construct enhances the ability to determine the reliability of the measures used. A measurement device, by its precision minimises random error, which was attempted by piloting the CAM questionnaire for comment as well as response.

Although all participants did not answer all questions, most participants answered most questions. Those questions which were not well responded to were those which required ranking by importance (CAM qs. 48, 52, 55 and 56) and those which asked for opinions about matters that were not part of everyday life. (CAM q. 44 and 50).

External validity (generalisability) relates closely to statistical validity (power) when all other aspects of reliability are maximised. As a survey provides only descriptive data about which inferences are made, basic hypotheses are usually general in nature and their primary value is in generating more specific hypotheses for testing (in perhaps, an experimental design). Surveys are also useful in gathering information for the delivery of improved health services especially, as in this case, they are drawn from a community sample.

Review of Methodology.

Much criticism of studies of menopause has centred around the definition of the terms which describe the temporal stages of the climacteric. Terms used here are used and defined internationally by the World Health Organisation. (see APPENDIX 1 and 2 for details). Premenopause begins at forty years of age and
menstruation is regular. It precedes perimenopause. Perimenopause is the short (~4 years) period around cessation of menstruation - usually two years before menopause and two years after it. Menstruation becomes irregular and has not occurred in the preceding three months. Menopause is defined as discrete event, the last menstrual period (LMP) followed by 12/12 amenorrhea. It has to be dated retrospectively which is a confound for many studies, because if LMP is not documented recall is frequently inaccurate. Postmenopause is the time after menopause during which there is no menstrual flow and it can last up to ten years. The climacteric is the time preceding and subsequent to menopause: it may be up to twenty years in duration, ten years before and ten years after LMP. (It is not described as lasting till death because hormonal decline eventually reaches a plateau).

Age has been a problem for menopause research because mean age of onset of menopause has been reported to range from forty eight to fifty two years. While recruitment by age is often necessary, especially in community samples, here it has been differentiated from menopause by direct assessment of regularity and temporality of menstrual flow. Symptomatology of menopause and the effects of aging are difficult to differentiate because decline in oestrogen levels may have 'silent' effects that are seen only after some time eg, osteoporosis. The symptoms known to be direct effects of change in endocrine function are the vasomotor symptoms, 1) hot flushes thought to be initiated by irregular feedback mechanisms of sex steroids which destabilise thermoregulation in the hypothalamus and cause sudden vasodilation and sweating particularly around the chest, neck and head: 2) atrophy of the endothelial tissue of the urinogenital system which causes decreased function of the mucosa and 'vaginal dryness' which may cause dyspareunia (painful / difficult sexual intercourse).

Symptomatology also has been problematic for research since debate about the consequences of changing physiology is continuing. There is much still to be learned about the physiological changes during the climacteric as well as a need to examine the repercussions of these on personal and public life. To reduce possible failures of construct validity the CAM questionnaire contains a very short list of symptoms which is modified by the phrase, "which you associate with menopause."

In designing the CAM questionnaire I also tried to avoid 'medicalising', 'commercialising' and 'politicising' menopause and the climacteric by not using leading questions or framing questions that lend themselves to medical, commercial and political considerations.
Gender Bias.

Unfortunately research into menopause has been strongly influenced by gender biases. Menopause literature has been susceptible to both gender biases; originally only masculine, since only men were in sufficiently authoritative positions to propound doctrine, and latterly feminine, as women break with conventional doctrines and introduces biases of their own (Coney, 1994). The primary focus of masculine bias has been insistence on defining menopause as a disease that requires treatment (Wilson, 1963) and not simply a natural process which may have varying degrees of acceptance from those who experience it, women. The rigid historical segregation of the medical profession to just one gender, masculine, has prevented any modification of this point of view till the recent past when increases in female members of the profession changed the perspective. The increasing visibility of women in developed societies as an economic, political and intellectual force has brought their concerns and interests closer to the centre of public attention. Any research that focuses on a 'condition' that is specific to one sex is open to criticism if it fails to correct for the confounds of societal norms and expectations. This means that study designs depend very heavily on already established expectations and results are analysed in the light of those fixed expectations - it becomes increasingly difficult to expand the boundaries if they adhere to preconceived ideas or seek to overthrow traditional thinking. This fixity of guidelines may be encountered as a barrier to the truth as Lock has found in her cross-cultural studies.

Gender-specific studies can be a double-edged sword; they may help in the understanding of vulnerabilities and disease prevalence in either or both sexes, or they may be used to promote unfair social and commercial or even political policies. (President Reagan regressed when he revoked the Equal Rights Amendment in the USA by inviting the public lobby to add to the momentum of his own agenda). Preconceived notions based on adherence to archaic canon may prevent both the unbiased conception of studies and the impartiality of their results. Even valid results can a yield a base on which to build distortions.

Conceptualisation.

Menopause is an enigmatic phenomenon that has multiple concepts. It is not yet known whether it has evolutionary advantage (Sowers and La Pietra, 1995) or is a side effect of other natural processes like aging. The uniformity of age of onset, the universality of menopause and the seeming abruptness of biochemical changes have a complexity that sets human females apart from
human males and females of other species. The fertility of large mammals and especially primates declines with increasing age, but only women have visible evidence of cessation of reproductive function. The termination of the fundamental feature of all animals, reproductive ability, promotes the concept of menopause as loss. Lock (1998) espouses the position which applauds the biologically adaptive function of postreproductive female primates lies in their continuing protective role against predation and care of the younger females in their troupe. Had lifelong reproduction been the norm in earlier hominids then the prolonged care of offspring would have prevented the proper care of those less dependent than newborns but not yet able to be fully independent. Postreproductive females provide greater inclusive fitness. Applying this theory to humans could explain the longer lifespan and lesser susceptibility to serious illness especially in the reproductive years, of women.

**Review of Method.**

There were methodological defects in the CAM, mainly through omissions. Some factors that appear to be antecedents to the onset of menopause, but have not yet been well established in this role, were not pursued.

One such environmental factor relates to nutritional status. Studies in Papua, New Guinea, have suggested that malnourished women experience menopause approximately four years earlier than did well nourished women (Sowers and La Pietra, 1995). Other studies have suggested that greater weight and height predispose to a later age at menopause. Nutritional status was not included because, in Otago, it was not thought to be justified. Similarly neither were weight and height. The constraints of resources and time were quite heavy and the length of the CAM questionnaire was deliberately limited to prevent it seeming onerous to complete.

Cigarette smoking has been the one environmental characteristic most frequently and consistently associated with an earlier age of onset. (McKinlay et al, 1985). Women who smoke reach menopause 1-2 years earlier than do women who do not smoke. Mechanisms thought to cause earlier onset are; 1) smokers metabolise oestrogen more rapidly than do non-smokers; 2) smokers have lower oestrogen levels; 3) aromatic hydrocarbons from smoking accelerate follicle aging; and 4) smoking may affect oestrogen receptor binding (Longcope et al, 1988). Smoking habits were not sought in CAM because we thought that disclosure of potentially stigmatising personal information may be limited by the subject's caution about this being judged adversely and thus impair response.
Reproductive characteristics are associated with age at menopause. Shorter (less than 26 days) menstrual cycles are more likely to be associated with earlier onset. Nulliparous women have an earlier onset of perimenopause whereas early menarche and oral contraceptive use are associated with a change in age of onset. All of the above mentioned factors may affect the climacteric and menopause onset age. Other potential factors that may contribute to prevenient onset are genetic predisposition, petrochemical or hydrocarbon exposure and other reproductive factors not yet investigated (Mattison and Thoreirsson, 1978).

Menstrual history was sought, including mean age of menarche, found to 12.7 years; this was pursued to examine a possible connection between menarche, PMS and symptomatology of menopause. We found none, but in the light of the omnipresent connection of these two reproductive markers in the work of Deutsch, it was thought prudent to examine them.

All the factors mentioned as possible biases are further confounded by the high overall rate of surgical menopause in developed countries and the variable treatments that women receive after hysterectomy. A weighty omission in this survey was the failure to ask age at hysterectomy. In conjunction with Utian's theories it would have been of greater benefit to explore in more detail the differences in the effects of surgical menopause. It has been estimated that women who undergo surgery have up to four times the incidence of vasomotor symptoms (Ottesen and Pedersen, 1996), and are much more likely to adhere to HRT regimes (Bush, 1997). The reasons for these outcomes could be legion and with the current production of a multitude of differently derived sex steroids could have elucidated the value of HRT regimes.

Demographics and Symptomatology.

Evidence of the association of social and economic circumstances as predictors of menopause symptomatology is mixed. Paid work has been found to exert a positive effect relative to the frequency of depression in women with higher SES, but the converse is true of women with lower SES (Severne, 1986, cited in Sowers and La Pietra, 1995). Social class has been found to be predictive of depressed mood, anxiety, cognitive difficulties and sleep problems (Hunter, 1986). Strong social support and networks have been observed to lessen menopause symptom reporting (van Keep, 1982). There was no evidence of negative affect related to menopausal status and the prevalence of GHQ 'cases' was low, 18.6%. There was a large group of women who did not respond to the question requesting educational qualifications, and since there was not an option to check 'none' in the questionnaire the tentative assumption was that
they had no formal qualifications. Many women had been in paid employment for much of their working lives, either part or full time, suggesting that the lack of formal qualifications did not present too many barriers to obtaining work outside the home. Income levels were low, most women earning less than $30,000. Despite this the majority considered that they were comfortable financially.

A large proportion of subjects stated that important decisions were made jointly with husband or partner. Three quarters stated that their households had two incomes which may account for them having a voice in decision-making and is an indicator of women's increasing economic power.

Fewer women than expected (11%) in view of Otago's allegedly aging population, were caring for elderly parents, but over half had dependent children. Most older 'children' were either employed or at a tertiary institution. Many women who had dependent children had GHQ scores that were above the threshold for being 'cases' especially those women (not quite 6%) who had three or more. Younger women had most children and over three quarters of them were in paid employment as well, which may be one reason that their mental health was lower than older women who did not have so many dependents. There were many older women also in paid work but they had fewer social roles to fill which releases them from their earlier pressures giving time for their own pleasurable pursuits and reflections.

Postmenopausal women reported the lowest fatigue rate which probably is associated with the fewer demands made upon them. When menopausal status was a factor the two largest groups with paid employment were postmenopausal and perimenopausal women. The heaviest load seems to have been on perimenopausal women who had the most social roles outside of their marriage/partnership roles. More perimenopausal women were in paid work (54.5%); they were second largest group with dependent children (31.8%); some cared for parents and they did the most voluntary work (9%). All this had no apparent effect on their mental health or self esteem which was uniformly good.

The subjects were fairly evenly divided into menopausal status groups though there were fewer perimenopausal women, perhaps because the time of perimenopause is shorter, around four years. A quarter of women had had surgical menopause and ten of these had a bi-lateral oophorectomy. Surgical menopause has different effects to natural menopause, whether ovaries are intact or not. We found that women with a surgical menopause reported the second highest number of symptoms each, behind perimenopausal women who had the highest rate of all individual symptom reporting.
Perimenopausal women had the most non-vasomotor symptoms of menopause but since evidence of symptoms of this nature being related to menopause is inconclusive, may have been a reflection of their busy lifestyles. Women with surgical menopause reported more vasomotor than non-vasomotor symptoms and postmenopausal women reported the least non-vasomotor symptoms, though the highest rate of vasomotor symptoms. Some previous conclusions have been that women who have had a hysterectomy have up to four times as many symptoms (Coope et al, 1975. Bush, 1996) but this study failed to confirm this. Our findings are closer to the prevailing notion that women's actual experience is less troublesome than was traditionally expected.

There were some symptoms reported by premenopausal women but mainly non-vasomotor. The vasomotor symptoms that they had probably indicated that they were in fact perimenopausal rather than premenopausal since the transition time is not clearly differentiated and declining oestrogen levels are not a steady decrease in plasma levels but rather fluctuations in a downward gradient resulting in some anovulatory cycles where withdrawal bleeding mimics progesterone-induced menstrual flow. This is the time that many women experience menorrhagia. This symptom was the only one not showing a significantly different prevalence across menopause status groups.

It has been proposed that menopause dysfunction differs between cultures (Kaufert et al, 1986). Social science research predicts that in cultures where youth and fertility are valued, and age is feared, complaints of menopause symptoms will rise (Sowers and La Pietra, 1995). In cultures where status and freedom are attained with age, menopause symptom reporting will be low (Flint, 1990). This study found symptom prevalence rates to be low but whether this is related to Otago women's status and freedom is not known. Hot flushes were the most prevalent symptom in this study (38%) as expected in a developed society of mainly European descent, but vaginal dryness prevalence was unexpectedly low (6.5%), which may not be accurate because this symptom experience does not relate to one person only and therefore may not be experienced by women who do not have regular sexual intercourse. Fatigue, (16.2%) anxiety (8%) and insomnia (0.13%) were the symptoms most reported by perimenopausal women which concurs with earlier findings that symptom reporting of all kinds, but especially non-vasomotor, is highest in the years just before and immediately after LMP (Ballinger, 1975).

It would appear that perimenopausal women are more affected by their social roles at a time when fluctuating hormones levels are having their greatest effects. This confirms some of the very early perceptions of the menopausal years, except that women's social roles have changed and are still rapidly
changing. Women are apparently relieved now to have stopped menstruating, and their mental health is better when they do not have dependent children which refutes previous ideas of the adverse effects of the loss of fertility and the 'empty nest syndrome.' Since women's roles are expanding and their economic status, and political power is improving, their reproductive status no longer dictates the course of their lives.

Health Status.

The Massachusetts Women's Health Study and the Melbourne Women's Midlife Health Project both investigated the use of strategies utilised by women to deal with their own health. Loosely described these were problem-seekers and problem-solvers. Whether these are lifelong characteristics or are confined to midlife is debatable but generally people become more conscious of the value of good health as they become older when they perceive their health as being threatened by the aging process. Most of the women visiting a GP three monthly or more often were in the oldest group (56-65 years).

We also found that more symptoms of menopause were associated with decreased health status. Although contemporary midlife women do not seem to regret the loss of their reproductive power as indicated by our finding that there was very little regret at LMP, they might be expected to visit a GP to get help for the unpleasant symptoms of menopause. This in fact did not happen and although the frequency of GP visiting had increased in the last decade for some women it did not seem to be connected with menopause symptomatology.

There were a large number of women taking medication for chronic conditions (hypertension, diabetes, asthma, etc) but they did not perceive themselves to be unhealthy or even less healthy than they had been ten years previously even though they visited a GP three monthly or more often. Vitamin and mineral supplements were taken by women who perceived themselves as being of average health or better but it was not clear whether this good health was the result of self-medicating or whether it was it was evidence of a continuing strategy of self-care.

Hormone Replacement Therapy.

Thirty four women were using HRT. The mean age of these women was 54.5 years suggesting that they were postmenopausal rather than perimenopausal though no doubt there were some of the latter since it is more likely that women who suffer from the vasomotor symptoms of menopause are more likely to seek professional help (Bush, 1997). This study found that married women were the greatest users of HRT but contrary to other findings
half of the users had no stated educational qualifications and they tended to be those on lower incomes. The greatest number of symptoms reported per individual woman were by those who had the lowest educational qualification, school certificate, though it was very little more than those with tertiary education. This is contrary to other findings that educated women of a higher SES are more likely to use HRT. The debate about the dangers associated with HRT has become emotional and heated at times (Coney, 1994) and women most likely to reconsider the implications are those who are well educated (and usually financially better off) which may account for this unexpected difference from past studies. This is supported by the trend toward most of the women who were using HRT to think that their health was average or better. Their mental health did not differ from non-users but their self esteem tended to be lower, though not significantly, which suggests that they may be more easily influenced by popular print media.

**Mental Health.**

Comparing women's mental health in 1989 and 1997 we found that most women were in good mental health and had low scores at both surveys, and their self esteem seemed not to have deteriorated in the intervening years. When asked to evaluate their own lives, there was no difference in mental health scores but there was a difference in self esteem. Those who felt that their lives were 'first rate' had higher scores than those who felt it was 'not so good' and the intermediate points, 'good' and 'fair' were between as expected. Women who were very satisfied with their marriages had better mental health and self esteem than those women who were 'quite' or 'not' satisfied with their relationship. When menopausal status was considered for association with life satisfaction the groups differed very little. Most of the women who rated life as 'good' were postmenopausal; the group least likely to do so were perimenopausal and almost forty four percent of premenopausal women considered their lives to be 'fair'. It would appear that estimates of satisfaction improve with passage through the menopause transition. The non-vasomotor symptom - anxiety, was tested for its association with life satisfaction and was experienced by 49% of postmenopausal women, 78% of whom, rated their lives as 'good' in spite of this. This may be an example of a coping mechanism at work, an effort to trivialise an emotion that was not easily assimilated with the rest of their lives. Overall impressions were that the sample seemed to be a fairly happy, contented group of people, many of whom made positive or optimistic comments in some of the open-ended questions and whose menopausal status had no bearing on their mental health.
Some however were somewhat less contented. Hot flushes did seem to have some detrimental association with a feeling of life satisfaction for perimenopausal women who experienced them. This is may relate to the immense personal discomfort and social embarrassment that some midlife women feel during a hot flush.

Questions about menstrual history were thought to be salient to a survey about menopause to ascertain whether negative experience of menstruation, especially menarche, would be reflected in experiences of menopause. Previous studies have found that menarche occurs at an earlier age when readiness for child bearing is favourable, ie. when nutritional and health status is improved (Khaw, 1992). Menopause, however is said to be much less variable in age of onset. These two ideas conflict if menopause is initiated by follicular failure due to a finite number of ova. The expectation would be that if menarche occurs earlier so does menopause. (Unless the number of ova are increasing.) There have been suggestions that for women who commence menstruation at an earlier age, menopause is delayed. The length of the period of women's fertility does seem to be a genotype open to important evolutionary change.

Median age at menarche in this sample was 13 years, though some women seemed vague about the onset of menstruation. Women seemed more certain about the amount and source of information they had at the commencement of their menstrual periods. The popular notion that this was a taboo subject in their youth was rejected because close to three quarters of the sample knew about menarche before it began and the most frequent source of information had been their mother. This widespread refutation of the taboo shows that negative experiences may be more readily recalled as well as being of more heuristic interest. Personality type, psychological maturity and early social role development would also have been factors in reactions at puberty but whether the same factors contributed to emotions at menopause is conjectural.

Being prepared for menarche had no association with the development of PMS. There are conflicting theories as to whether PMS is experienced at all during women's very early fertile period following puberty, due perhaps to some anovulatory menstrual cycles at this time. (see APPENDIX 2) but its relationship to menopause is frequently investigated (Sherwin, 1988). Over 60% of subjects reported that they suffered from PMS in its severe form (now Premenstrual Dysphoric Disorder PDD) "out of control for part of your cycle" occasionally (39.4%) or frequently (21.8%). This seems to be a high prevalence rate though studies have reported a prevalence rate of 100% depending on symptomatology. Since few women sought help from a health professional for this condition we can only speculate about the validity of this
figure. The mental health of women experiencing PMS was lower than average but their self esteem was not affected. PMS was not associated with negative experiences of either menarche or menopause. The growing interest in this disorder may present some explanations in the near future.

Direct questions about feelings at menopause were quite complex and many women, fifty, did not respond to the question about emotions at menopause even though it was framed to capture expectation as well as experience ie encouraged premenopausal women to answer as well as others. It is possible that premenopausal women give little thought to the approach of menopause and some postmenopausal women scarcely notice its passage. By far the greatest number (n=101) were relieved to have stopped menstruating and forty five felt 'neutral' which argues against the traditional notion of reproductive loss associated with unhappiness. Early or surgical menopause probably brings different emotions than those of natural menopause, but nevertheless seventy five per cent of hysterectomised women stated that their felt relieved at menopause though probably for different reasons. Only five women who answered this question about their experience of emotion at their last menstrual period stated that there had been regret and these had all had a surgical menopause. Childlessness too could be expected to have an effect of some kind at menopause, conjecture predicting greater regret than in parous women.

There were no direct questions on sexuality in the survey. Early menopause writing depicts promiscuity in midlife women springing from a belief that, to make up for the loss of reproductive power, women demand greater sexual gratification. (see lit. review, p. 8). Later opinion reverses this, suggesting that shame at the loss of reproductive power is reflected in decreased libido. Instead of requests for introspective answers, the CAM (q. 44) asked about sexual attractiveness in general and whether it changes at menopause. In response to whether women had 'thought about it at all,' there was no significant difference between the four menopausal status groups - they had all given little consideration to possible increase/decrease in sexual attractiveness. There was, however some thought given, indicated by a negative linear relationship indicating more focus as menopause transition became a reality and then beyond into the postmenopausal period. Apart from lingering negative mythology, the popular print media may be influential in this by turning some attention away from the worship of youth toward older women who now have more economic power than before. Greater numbers of women in all groups (total 91.9%) did not believe that a woman's sexual attractiveness was changed by menopause though fewer premenopausal women thought so than the other
three groups. Almost two thirds of postmenopausal women thought that attractiveness did not change and perhaps, having completed the menopause transition, this has the stamp of their personal authority and experience. Women with hysterectomies had considered the effect of being deprived of their uterus in greater numbers than other groups; almost three quarters of them were sure that there was no change. Perhaps the anticipation of surgery demanded serious reflection. Women were asked if they thought that menopause would have an effect, varying in intensity, on their life. (CAM q. 50). In response to options about change in relation to GHQ scores, women with higher GHQ scores thought that menopause was or would be a time of "great change". Women who thought that life would change for the better did not differ significantly in GHQ score from women who did not. Those with lower GHQ scores expected that something quite momentous did or would happen at menopause, but they did not know whether change would be for better or worse. Very few women saw menopause in an absolutely negative light - expressed as 'the beginning of the end'. Women who expressed a lack of concern about menopause and expected that it would or did have very little effect, had significantly lower GHQ scores. Increasing age and higher levels of formal education seemed to make women even more accepting - older women seem to have passed through the transition period relatively untroubled. Generally midlife women did not seem to attach too much importance to the menopause transition. Premenopausal women were less likely to concur with the idea that they would gain more than they would lose at menopause, perhaps indicating some apprehensiveness. Those who were least accepting of the idea were aged between 51 and 55: there was very little difference in the three menopausal groups, peri, post and hysterectomised. There was no difference in mental health status between women who thought they had more to gain than lose, and those who didn't agree with that. In keeping with a more optimistic and open acceptance of menopause as a simple transition, higher self esteem scores were associated with the principle of gain being greater than loss. This may indicate that negativity is less pervasive than previously but it should be noted that self-esteem varied little overall between OWHS-1989 and 1997 in all age groups: this positive view of the self may not have been related to menopause.

**Internal Locus of Control.**

Socialisation theory, which proposes that cognition is constructed by transmission of social constraints, has been criticised for maximising the differences between men and women by ignoring both choice and social force. Sex role theory subscribes heavily to socialisation theory with its reliance on
stereotyped customary expectations (Andreason, 1997). These theories have held sway since the mid 1950s paralleling Erikson's identity theory.

Two subordinate theories contributing to socialisation theory as they relate to midlife women were utilised here, locus of control, either internal or external, and attribution theory. Briefly women attribute negative events in their lives to some personal fault, and positive ones to forces outside of themselves. These often prescribe their ability to function and be an agent ie. whether they are controlled by, or are in control of, their environment; whether control is located within themselves, or exerted by other people and/or their social milieu. These issues are measured by evaluating the effects of attribution theory and locus of control which may be manifested in mental health and self esteem.

Questions were subsumed under hypothesised self-efficacy. Included was a self assessment of decision making ability. Women who frequently needed help to make decisions had significantly lower self esteem scores than those who did not. Women who appeared to lack assertiveness had significantly less mental health than those who did not. Both of these indicate a lack of self confidence and dependency that is a concomitant of low self esteem. Also significant was the difference in self esteem between women who responded positively to the happiness of others and those who didn't, the former being higher. Having high self esteem may make it easier to identify with the good affect of others since it is an affirmation of one's own strength.

In response to a question about their competence to make an 'important personal change' in their lives, almost forty five percent of women gave an unqualified 'yes', suggesting that they had an internal locus of control, or using today's term, they felt empowered. Twenty nine percent thought that they were less competent and would need some help to achieve important personal change. Very few women, gave an unqualified 'no'. There was an option for those either unable to decide, or indifferent, 'haven't thought about it', which was endorsed by almost one fifth, but in general women did not evade the responsibility of thinking about their personal competence - only six did not answer this question. The majority of women in the sample felt that they had sufficient power to make an existential change. The self esteem scores for women who gave affirmative answers to this question were significantly higher than for those who did not feel personally powerful. Women who said that they would need help to change had self esteem scores that were not significantly different from those who were indecisive. The similarity in self esteem in the latter two groups suggests that the two responses had similar implications for these women - difficulty in not simply making decisions, but also carrying them out once made. Their feelings of personal agency were not strong. Not surprisingly, women who had very
good mental health were those who felt able to effect change unaided. Women
who said that they would need some help had lower mental health than the
preceeding group, but not as low as those who felt unable to change at all. There
was a difference in mental health of women who would need help to change and
those undecided/indifferent, however. The latter group had the best mental
health of all. If this was indifference rather than indecision then this response
could have rested on the perception that no change was necessary - that they
were in fact happy the way they were. If this was the case then they too,
presumably, felt in control of their lives. These results suggest that these midlife
women had good self-efficacy - they felt competent to govern their own lives.

External Locus of Control.

Feminist theory maintains that women care more about feelings than men
which accounts for women's concern with relationships and their desire to
nurture others (Gilligan and Notman 19878 cited in Notman, 1979). Four
possible types of affiliation were probed for their personal relevance and
sympathy - 'people', 'feelings', 'problems' and 'interests'. In accordance with
socialisation theories 'feelings' were highest in relevance, but 'people' were third,
following 'problems', and 'interests' were last. Nurturance was preceded by a
concern with problems which may be a comment on current social and political
changes in New Zealand. The obvious avenues for expressing nurturance -
children or elderly parents, did not have substantial implications for the majority
of women in this sample. Nurturance was assessed for its association with self
esteem to examine any lingering aspects of the 'empty nest syndrome' and
results suggest that women with higher self esteem do in fact express some
concern with the importance of caring for others. This is contrary to the findings
that women with dependent children have lower mental health though agrees
with the lack of effect on their self esteem. Whether it can be assumed that other
people are substituted to maintain a nurturing identity when children are no
longer the objects of nurturance is debatable, but the difference in SCQ scores
was significant when compared with emotions, problems and interests.
It may relate more closely to Levinson's theory that when, at menopause a
woman is able to feel individualised and "less tyrannised by inner conflicts and
external demands" (1978) she can affirm and validate herself and in doing so she
can feel more enabled to do the same for others (Phillips, 1990. p. 293).

Family life was of overriding importance in women's lives, far exceeding a
husband's/partner's career or a woman's own career. This latter was exceeded
by cultural/spiritual life also, and friendships were of the least importance to
women in this survey. Perhaps the importance of friendships in this sample was
less evident because of the large number of long term marriages and the large
proportion of women having a husband as primary confidante.

An integral part of change, especially its influence in the private domain,
is the measure and quality of social support that is available to individuals.
Evaluation of the quality of support or whether it is sufficient and satisfactory,
should take into account personality type and/or coping mechanisms, but a
review of the literature suggests that women who can rely on the support of a
partner, rather than someone less intimately associated, has benefits greater than
those derived from the support of other people. If there is a degree of
turbulence in the lives of midlife women as is traditionally assumed, it is safe to
assume also that their need of social support also increases. A readily available,
willing ear is the preferred recourse for the women in this survey; the majority
stating that their partners were their 'first' confidantes. This would appear to be
substantiated by the numbers stating that they took part in making major
decisions and in the harmonious nature of their relationships. Both these
conditions were upheld also by the sharing of priorities and values with their
partner: very few women stated that they did not hold important priorities and
values in common with their partner. It is probably in the nature of a long term
relationship that these values are held in common or had developed. There is
probable support also by the finding that the greatest proportion of all women
assessed their lives as 'good' or 'first rate.' This finding may well be more a part
of social role change and how it is facilitated, rather than being directly related to
the changes of menopause, but because it is difficult to extricate one from the
other it is likely that it contributes to the relative contentment of the sample.
Phillips' thesis that men can find their own stability threatened by the
physiological changes in their wives/partners is not substantiated here but it is
conceivable that men's interactive patterns at midlife, are influenced by their

The most notable result of the survey was the stability of the sample both
in the cross-sectional phase and the longitudinal phase. It was apparent in most
of the variables that relate to midlife and health that were probed. Though these
findings cannot be construed as causal, the statistical evidence together with
overall positivity in women's view of themselves and their attitude to their
social roles and relationships do seem to contribute much to this apparent
resistance to disruption. The absence of a difference in mental health and self
esteem between 1989 and 1997 suggests that there was little influence from
outside sources on women's lives which disturbed their equilibrium. If social role responsibilities were changing then adaptation had been successful. If menopause had occurred in the intervening years it had not caused disruption that had been unmanageable - retrospectively it had been well within women's power to control. The perimenopausal years were more disturbed than the other stages of menopause as has been found before. If prevalence of symptoms is due in part to the burden of social responsibilities then the postmenopausal years were relatively calm and symptoms were fewer and less intrusive than they had been earlier.

Health status was good and partnerships were stable and harmonious. Financial status was also satisfactory though few were wealthy and most had worked outside the home for a large part of their lives. There was little sign of the intrusion of current social change; perhaps resistance to it was due to long term marriages. There were signs of apprehensiveness in premenopausal women about the menopause transition but these were not strong. Generally the sample was comfortable and contented and evidence of any negative influence of menopause was lacking.
Epilogue.

The greater part her reproductive function plays in a woman's life is the most obvious difference between the sexes. This difference does not seem to be readily open to change. The reality of the primary biology which underlies the physical differences between men and women can only be set aside by intellectual effort. In its absence society has developed customs which become enshrined as social values, which in turn dictate behaviour. This tautology circumscribes biology as destiny.

Paralleling the biological assumptions about sex differences, sex role theory (Erikson, 1966) emphasises the difference between the sexes by their behaviour: the influence of social expectations draws different responses in women's and men's behaviour. But role theory can be seen as social determinism which creates stereotypes, where there are rewards for conformity and punishment for departures from it. Role theory is flawed by its concentration on adherence to social structure while denying personal agency and identity. Social constructs often continue when their original merit is no longer relevant to social progress.

Much of the literature on menopause has been devoted to social structuring. This concern with the circumstantial ignores women's instrumentality and simplifies the complexities of sex role theory by reducing it to one dualism, feminine and masculine. The effect of turning reality into an abstraction is political, open to the exercise of power. Any departure from the stereotypical is stigmatised; any deviance from the norm is pathological. The beginning and end of women's reproductive capacity is neatly encapsulated within this framework, seen not as natural variation, but aberration.

This is the concept of menopause as deviance.

Past attitudes and beliefs about women's reproductive functions have contained an element of hostility toward women which, though no longer evident in contemporary research, has left a legacy of negativity, if not outright bias. As recently as 1966 this was manifest in such publications as R. A. Wilson's book, Feminine Forever, which was the modern culmination of the discovery of the sex steroids in 1920. (see literature review p. 15). It was a landmark publication in the progress toward what is now termed the 'medicalisation' of one of the aspects of women's natural reproductive life, menopause. Mention of Wilson's book still figures strongly in writings about menopause, provoking and prolonging indignation among women, and serving to reinforce the powerful 'rebound' effect which encourages women to take the opposite stance and reject hormone replacement therapy outright.
Attempts at a truly open-minded and all-encompassing approach to the study of menopause is fraught with problems because there is a risk of masking one concept by the undue importance bestowed on others. The notion of menopause as a disease has been rejected, but the idea that there is a risk of morbidity initiated by menopause has not. Currently morbidity is not seen as immediate, but precipitated by menopause, and there is speculation about the major conditions that may occur in the postmenopausal period and the demands these may make on society. Kaufert and Lock graphically describe this epiphenomenon;

"As they age and pass their menopause, women are told that their bodies are [not just] a source of danger to themselves, but also to the body politic, which will collapse under the burden of their demands.

A globally aging female population will lead to a growing public health demand. Without appropriate therapies, menopausal complaints, cardiovascular disease, osteoporosis and other diseases associated with oestrogen deficiency will place a growing burden on health services world-wide. ..... Health is the virtue for women as they age ..... . (1997).

Menopause is integrated into popular culture as a social phenomenon with a domain at the convergent point of the interests of the medical community and the pharmaceutical industry (Palmlund, 1997).

This is the social reconstruction of menopause as risk.

The concept of the climacteric as a 'passage' toward personal redefinition is not new. This is becoming increasingly recognised as a legitimate (not simply optimistic) view of life after menopause which makes menopause itself not just endurable but welcome. It features little in the scientific literature about menopause, perhaps because it is very difficult to elucidate. Nor is it clear whether it is due to social change or endocrine change or natural development or any combination of these. (The most notable proponent of this view is Germaine Greer, whose book, The Change, was published in 1991).

This is the concept of menopause that is women's personal redefinition.

This is the concept of menopause alluded to in the preface which prompted the germination of the hypotheses for this survey.

Although the influence of the old mythology of menopause has diminished, clear effects remain and are documented here.

Whereas the social construction of menopause was largely based on the fear and mystery of women's reproductive power, it is now being built on menopause as risk. The risk is increasingly defined as threats to health and
personal welfare requiring intervention in the form of surgical and pharmacological treatment. Some risk (osteoporosis) can be averted by personal agency - in the form of diet and exercise. In the current economic crisis in health spending, the pressures toward more individual responsibility, abetted by some increase in women's economic power, facilitate the acceptance of the physiologically normal event of menopause, but in terms of social control. Intervention can appear to be both sensible and responsible, and for some women the degree of physical discomfort during the menopause transition can become a force for compliance. The confusion between menopause as disease and menopause as aging serves to cloud consideration even further. Youth worship and its converse, denigration of aging, exert unsubtle influences on women from adolescence onward. Constructing menopause as risk has the potential to benefit commercial interests, not only cosmetic and pharmaceutical companies but also publishing houses and public relations enterprises.

For women at midlife menopause may be an ill-defined problem which can become more difficult to resolve because of the uncertainty which surrounds it. Lack of reliable information hampers resolution.

"There is considerable evidence that people are more likely to arrive at conclusions that they want to arrive at, but their ability to do so is constrained by their ability to construct seemingly reasonable justifications for these conclusions" (Miceli and Castelifranchi, 1998).

In the case of beliefs about menopause, by using the word 'mythology' we instantly infer that there is at least an element of unreliability akin to our disbelief in fairy stories. It is also very easy, given the superstition and gender biases inherent in those beliefs, to discredit their source. The compelling power of new knowledge can dispel the protean quality of myth which usually reinforces changeless beliefs in a changing world. In the present global climate of women's persisting inequality, gender bias carries enough emotional weight to invalidate a belief by putting it beyond rational acceptance. This may happen when a sought-for alternative becomes 'evidence' against the undesired belief. This creativity underlies the proliferation of popular publications about menopause and their careless disregard of empiricism. By discrediting the source we can also impugn the integrity of the stereotype that the source has created, and generally we tend to believe that stereotyping is detrimental to its object. In seeking an alternative (or even a polar opposite), we can be trapped into thinking that we can thus exclude the original premise, but alternatives are not necessarily mutually exclusive.
The social imposition of a negative view of menopause is not necessarily false because it is a social construction. There are inevitable endocrine changes at midlife in women bodies with varying implications for their lives. The source of the beliefs about menopause can be discredited by the prejudice in the motives for promulgating those beliefs; superstitions, gender biases, but leaping to the directly converse view defies a recognised rule of reasoning because it has inbuilt biases of its own. Somewhere between these lies a view that is nearer the truth. Freely available, well researched information can assist women to make the transition through menopause on their own terms.


Mead, Margaret. *Blackberry Winter: My Earlier Years.* (1972)


APPENDIX 1.

Definition of terms used to describe the physiological mechanisms of the climacteric.

Inconsistency in strictly defining terms has compromised the external validity of many studies, both clinical and psychosocial. Recognised international standards are now in place.

The following definitions are from Whitehead and Godfree, 1992.

i. Premenopause/premenopausal.

Accepted international classification of the period of women's lives from age 40 until the time when menstruation naturally becomes irregular, is termed premenopausal. Measurement of rising gonadotrophic hormone (FSH, LH) levels is not a reliable indicator (Burger, 1994) because of fluctuations within each individual, (see above) and women are highly idiosyncratic in ovarian stimulation threshold. It is thought that oestradiol (E2) levels begin to drop during this time.

ii. Menopause.

Cessation of menses is called menopause, and is defined retrospectively as the last menstrual period. This is a discrete physiological event and is recognised after 12 months amenorrhoea. Median age at menopause throughout all Western cultures is 50.8 years and seems not to have varied during this century, as age of menarche has. It appears to be unaffected by socio-economic status, race, parity, height, weight or skin fold thickness. However tobacco users appear to undergo a natural menopause 1-2 years earlier than non-smokers. The term is used very loosely in the vernacular and has come to replace 'climacteric' or 'climacterium' with which it is not synonymous.

iii. Perimenopause/perimenopausal.

This has commenced when menses begin to become irregular, and have been so for at least 3 months. It is a later phase of the climacteric immediately before and after LMP when the ovaries are becoming unresponsive to gonadotrophic stimulation. Can last ~4 years. At this time many menstrual cycles may be anovulatory. Corpus luteum function is deficient and progesterone production falls markedly. Oestradiol secretion is erratic. The customary length of the menstrual cycle may shorten by as much as 7 days, but as ovarian unresponsiveness becomes more marked the
length of the menstrual cycle may increase to any duration between 28 days and many months.

iv. Climacteric/climacterium.

Not used colloquially, the climacteric (Gk- Klimakterikos - major turning point) is the transition phase during which ovarian oestradiol (E₂), considered a by-product of oocyte maturation, and progesterone production, which only occurs after ovulation, become greatly reduced, and which, when complete, leads to postmenopause. The climacteric is the continuous period of time preceding the discrete event of menopause, plus a variable period of time after it. For most women the climacteric extends for 2-4 years and usually starts around age 46-48 years. Climacteric is defined as a long-term physiological process caused by the involution of the ovaries, entailing a variety of physiological changes, one of which is menopause. When anovulation becomes more frequent there is a loss of progesterone production by the ovary. Eventually oestradiol production falls below a critical threshold and endometrial stimulation no longer occurs, resulting in amenorrhoea. The climacteric can be as long as 20 years, as much as 10 years before cessation of menses and 10 years after it. The climacteric is difficult to define temporally in any individual woman, because there are no clear markers of its presence or absence, though attempts have been made to use absolute levels of gonadotrophic hormones (which increase through negative feedback mechanisms for up to 3 years after menopause). Differing individual ovarian stimulatory thresholds and other, as yet partially unexplained fluctuations in plasma E₂ levels, prevent accurate predictive indicators being established.

The relative levels of the oestrogenic hormones, oestrone (E₁), converted from androstenedione, an androgenic hormone secreted by the adrenal gland, in adipose tissue, and oestradiol (E₂) are reversed after menopause; now predominant, oestrone is less biologically active than oestradiol but still has the ability to bind to oestrogen receptors and cause oestrogenic effects within responsive cells. Small amounts of oestrone may be converted to oestradiol. It has been found that the efficiency of peripheral conversion of androgens to oestrogens is correlated positively to increasing age, especially in women (Hemsell et al, 1974, cited in Gannon, p. 182). The hot flushes that characterise menopause for many women are thought to be due to oestrogen withdrawal upsetting neurotransmitter balance in the region of the thermo-regulatory area of the hypothalamus.
v. Hysterectomy.

This is the surgical removal of the uterus. It may include removal of one or both ovaries. Modern treatment requires oestrogen therapy if there is bilateral oophorectomy. The abrupt cessation of menses after hysterectomy is termed surgical menopause which is functionally different to natural menopause, even if ovaries are intact. Most research paradigms now differentiate between surgical and natural menopause.

vi. Postmenopause/postmenopausal.

The indeterminate period of time after menopause that is the residual part of the climacteric. The contribution to the circulating sex hormone pool in plasma is controversial. 'Postmenopausal biochemical parameters are no guarantee of postmenopausal state' (Burger, 1994). Irrespective of whether significant ovarian function continues after menopause or not, comparatively, the postmenopause is associated with a relative excess of androgens to oestrogens. There appears to be a dual association of oestrogenic hormones with fatty tissue in the pathology of amenorrhoea in menstruating women (little fat), osteoporosis in thinner postmenopausal women (little fat) and anecdotal evidence of fewer vasomotor symptoms during the climacteric in overweight women, due to higher levels of circulating oestrone from peripheral conversion. Weight has also been found to be negatively correlated with the circulating concentration of sex hormone binding globulin (SHBG) a plasma protein that binds with oestradiol and renders it biologically inactive (Erlik et al 1982, cited in Gannon, p. 184). Thus excess body fat is associated with increased conversion of androgens to oestrogens and lower levels of SHBG suggest less oestrogen is bound and therefore more active, than in thin people (Gannon, p. 184). (Taken from Hormone Replacement Therapy: Your Questions Answered. M. Whitehead & V. Godfree, 1992: Endocrinology of Menopause. L. Gannon in The Meanings of Menopause. ed. R. Formanek, 1990).
APPENDIX 2.

Hormones.

The following summary of empirical material is from Kleeton's third edition of *Biological Science* (1980).

Hormone Pathways.

The secretion of the female reproductive hormones is controlled by the hypothalamus which is situated close to the pituitary gland in the brain. Gonadotrophic releasing hormone (GnRH) is secreted by the hypothalamus (in a closed loop) to stimulate the anterior pituitary, which in turn secretes follicle stimulating hormone (FSH) and luteinising hormone (LH), which are pituitary hormones or gonadotropins. FSH stimulates ovulation by facilitating maturation of ova in the ovaries of post-pubertal females. The growing follicles secrete oestrogen which causes the lining of the uterus or endometrium to thicken. [Another hormone, inhibin, which is thought to be a biological marker of either ovarian follicular number or follicular quality may contribute to the feedback mechanism which stimulates the rise in FSH levels found in peri and postmenopausal women (Burger, 1994)]. At the height of oestrogen production, an abrupt surge of LH from the anterior pituitary brings about follicular rupture and ovulation; usually just one ovum reaches full maturity. Under the influence of LH the follicle tissue is converted to a yellow mass of cells, rich in blood vessels, called the corpus luteum. This continues to secrete decreased amounts of oestrogen and also the second female hormone, progesterone, which is primarily responsible for preparing the uterus for implantation of the embryo and maintenance of pregnancy if it occurs. While progesterone levels are high, the growth of follicles is inhibited by feedback to the hypothalamus inhibiting GnRH release, and, it is thought, by direct effect on the ovaries, preventing further oestrogen secretion and ovulation. If fertilisation does not occur during the normal cycle, the corpus luteum atrophies and progesterone levels fall. The lining of the uterus begins to be reabsorbed, but unlike most mammals, humans cannot reabsorb all the extra tissue and some of it is sloughed off, becoming the menstrual flow.

Perimenopause is thought to be begun by the considerable reduction in the number of remaining follicles and the lessening sensitivity of the ovaries to the stimulatory activity of the gonadotropins. (see Table 23 below). The rate of follicle loss appears to accelerate dramatically in the last decade before menopause for reasons as yet unknown, but given the high degree of
fine tuning in the hypothalamic-pituitary-ovarian system required to maintain regular ovulatory cycles, any alteration could initiate changes. When the output from the cortical ovarian granulosa cells begins to diminish, production of oestrogen and progesterone begins to fall (androgen production continues from the stroma cells). By diminished negative feedback to the hypothalamus and anterior pituitary, FSH and LH levels rise, but aging follicles do not respond. This is not a smoothly retrogressive process and some cycles in the perimenopause are ovulatory. Women are warned by responsible clinicians that pregnancy can occur up to two years after the last menstrual period/menopause. It is clear that there can be large, irregular fluctuations in physiological hormone levels which are putative causes for the disturbances seen during the climacteric, till physiological balance is restored at the end of the climacteric. Archer (1982) has suggested that hypothalamic GnRH is released in a pulsatile manner which contributes to fluctuating plasma levels of sex hormones. Sometimes adaptation to hormone withdrawal is not established and adverse conditions due to reduced levels develop. An example is osteoporosis, which is due to an inability to retain calcium in skeletal tissue because of inadequate oestrogen supply.

ii. Sex hormones and affect.

Sex hormones appear to exert an effect on mood. Levels of oestradiol (E2), within their physiological range appear to improve mood, ie self-confidence, elation, clear headedness and energy. Sherwin has noted that mood co-varies with circulating E2 levels within the physiological range, ie higher levels produce improved mood within the range of normally fluctuating menstrual cycles. This appears not to be true of exogenous testosterone (tried therapeutically on women, but not alone) because the normal range is easily exceeded because it is slowly absorbed and slowly metabolised, reaching supra-physiological levels that reduce only very slowly. Testosterone is aromatised centrally to oestrogen. Studies of psychiatric patients given E2 have used doses above physiological range, with reports of both success and failure in improving mood.


1. * indoleamine metabolism - increases rate of degradation of monoamine oxidase (MAO).
   * MAO catabolises serotonin (5HT).
   * net effect of oestrogen administration is an increase in central 5HT levels.
2. * Oestrogens displace tryptophan (precursor of serotonin) from its binding site to plasma albumin. Greater amounts of free tryptophan are available to the brain. There is significant negative correlation between depression scores and free plasma tryptophan levels and an amelioration in depression scores subsequent to oestrogen administration have been found. Thus in postmenopausal women oestrogen augments serotonergic activity and fluctuations in levels of gonadal hormones coincide with fluctuations in:

* blood MAO
* 5HT levels
* platelet 5HT2 receptor binding
* 5HT uptake
* imipramine receptor binding

Both or either of these neurochemical mechanisms can be accommodated in Schildbrant's biogenic amine theory of depression (1965).

Table 23.

<table>
<thead>
<tr>
<th>Hormone</th>
<th>Early phase</th>
<th>Middle phase</th>
<th>Menopause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oestrogen</td>
<td>High relative to</td>
<td>High relative to</td>
<td>Very low.</td>
</tr>
<tr>
<td></td>
<td>progesterone</td>
<td>progesterone</td>
<td>&lt;20pg/ml.</td>
</tr>
<tr>
<td>Progesterone</td>
<td>Declining</td>
<td>Declining</td>
<td>Unmeasurable</td>
</tr>
<tr>
<td>FSH*</td>
<td>Slight increase</td>
<td>Increasing</td>
<td>High &gt;50pg/ml.</td>
</tr>
<tr>
<td>LH*</td>
<td>Non-responsive to</td>
<td>Non-responsive to</td>
<td>Elevated</td>
</tr>
<tr>
<td></td>
<td>FSH.</td>
<td>FSH.</td>
<td></td>
</tr>
<tr>
<td>Ovulatory</td>
<td>Premature</td>
<td>Erratic</td>
<td>None</td>
</tr>
<tr>
<td>cycles</td>
<td>ovulation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* FSH- follicle stimulating hormone.
* LH - luteinising hormone.
APPENDIX 3.

DOCUMENTS ACCOMPANYING QUESTIONNAIRES.

Confidentiality Statement

Information and Instruction Sheet

Consent Form
SURVEY OF CURRENT ATTITUDES TO MENOPAUSE.

Confidentiality Statement.

I, Valerie H. Markham, will regard all private and personal information conveyed to me by means of the three questionnaires, namely the General Health Questionnaire, the Self-Concept Questionnaire and the Current Attitudes to Menopause Survey, as strictly confidential at all times. At no time will participant's identities be available to any other person. All information will be converted into numerical form and used as data for statistical purposes only. All written information will be destroyed after numerical conversion, unless written permission is obtained from each individual participant, for it to be used for other purposes. Data will be stored in electronic form and as such will not be identifiable as pertaining to any particular person.

The results of the survey will be reported in general terms only, and as such will not permit identification of any individual.

Signature ------------------------------- Date -------------------

Witness' Signature --------------------- Date -------------------
INFORMATION AND INSTRUCTION SHEET.

I wish to invite you to participate in this survey, Current Attitudes to Menopause, which is part of my thesis for a Masters of Health Science degree at the University of Otago. The purpose of the survey is to determine whether the public attitudes toward menopause which prevailed ten years ago are still held by midlife women. By doing this I hope to discover which are the important concerns of women in the middle years.

With participation of women in the community, through frank responses to the questionnaires, information can be made available to those professionals who are responsible for providing care and support.

The questions are concerned with personal and sensitive matters and may take some time to answer, but the information will be invaluable in indicating women's requirements.

You have been selected for this project because your name was listed from the Electoral Roll, seven years ago as part of the postal Otago Women's Health Survey. Your response is voluntary, but if you do not wish to take part in the study please send the entire package back to me in the pre-paid envelope, without delay.

If, after completing the questionnaires, you wish for information or advice concerning matters raised by the survey, then please contact me. I will provide the names of organisations or pamphlets which will give you access to the particular information you need.

After completing the questionnaires, please put them in the pre-paid, addressed envelope and post them back to me by Friday 30th May 1997.

If you would like advice as to your rights as a participant in this study you may approach the Health and Disability Consumer Advocates, Dunedin, telephone: 479 0265.

If you would like a brief summary of the results of the survey please indicate this and you will receive a short report of the findings when they become available.

If you have any concerns about the questionnaires, do not hesitate to contact me or my supervisor, Prof. S. Romans, at the Department of Psychological Medicine, University of Otago, P.O. Box 913, Dunedin.

Yours sincerely,

Valerie H Markham.
Ph. (03) 453 6796
CONSENT FORM.

I have read and understood the information and instruction sheet, the statement of confidentiality and the requirements of the survey of Current Attitudes to Menopause, The General Health Questionnaire and the Self-Concept Questionnaire and I agree to participate in the research survey by answering all of the three questionnaires. I understand the nature and purpose of the research survey and I have had sufficient time and opportunity to discuss it and to ask questions which have been answered to my satisfaction. I have considered fully the implications of taking part in the survey.

I understand that taking part in the survey is voluntary and I may withdraw at any time and this will in no way affect my future health care.

I understand that my participation in this survey is confidential and that no material that could identify me will be used in any reports on it.

I .................................. (print full name) ................................ hereby consent to take part in this research survey.

Signature:

Date:

I wish to receive a copy of the results of the research. ...................... YES / NO.

I consent to my GP being informed of ........................................... YES / NO.

Researcher: Valerie H Markham.
Telephone: (03) 474 0999 ext. 7377.
(03) 453 6796.
APPENDIX 4

GENERAL HEALTH QUESTIONNAIRE - 12.

The following questions ask about your general health.

Have you recently (over the last four weeks):

Please tick the appropriate box.

<table>
<thead>
<tr>
<th>Question</th>
<th>New/Improved</th>
<th>Same</th>
<th>Decreased</th>
<th>Much Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) been able to concentrate on what you are doing?</td>
<td>better than usual</td>
<td>same as usual</td>
<td>less than usual</td>
<td>much less than usual</td>
</tr>
<tr>
<td>2) lost much sleep not at all over worry</td>
<td>no more than usual</td>
<td>rather more than usual</td>
<td>much more than usual</td>
<td></td>
</tr>
<tr>
<td>3) felt capable of making decisions more so than usual about things?</td>
<td>same as usual</td>
<td>less so than usual</td>
<td>much less capable</td>
<td></td>
</tr>
<tr>
<td>4) felt constantly not at all under strain?</td>
<td>no more than usual</td>
<td>rather more than usual</td>
<td>much more than usual</td>
<td></td>
</tr>
<tr>
<td>5) felt that you couldn't overcome not at all your difficulties?</td>
<td>no more than usual</td>
<td>rather more than usual</td>
<td>much more than usual</td>
<td></td>
</tr>
<tr>
<td>6) been able to face up to your more so than usual problems?</td>
<td>same as usual</td>
<td>less able than usual</td>
<td>much less able</td>
<td></td>
</tr>
<tr>
<td>7) been feeling unhappy or depressed?</td>
<td>no more than usual</td>
<td>rather more than usual</td>
<td>much more than usual</td>
<td></td>
</tr>
<tr>
<td>8) been losing confidence in not at all yourself?</td>
<td>no more than usual</td>
<td>rather more than usual</td>
<td>much more than usual</td>
<td></td>
</tr>
<tr>
<td>9) been thinking of yourself as a no more than usual worthless person?</td>
<td>no more than usual</td>
<td>rather more than usual</td>
<td>much more than usual</td>
<td></td>
</tr>
<tr>
<td>10) been able to enjoy your day to more so than usual day activities?</td>
<td>same as usual</td>
<td>less than usual</td>
<td>much less than usual</td>
<td></td>
</tr>
<tr>
<td>11) been feeling comfortably cheerful more so than usual all things</td>
<td>same as usual</td>
<td>less than usual</td>
<td>much less than usual</td>
<td></td>
</tr>
<tr>
<td>considered</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 5.

SELF-CONCEPT QUESTIONNAIRE.
Self-Concept Questionnaire.

This questionnaire deals with attitudes and beliefs that people have about themselves.

Please indicate how much you agree or disagree with each statement by circling a single number that shows how you feel most of the time. Since people vary so much in the opinions they hold, there are no right or wrong answers.

<table>
<thead>
<tr>
<th>Statement</th>
<th>disagree completely</th>
<th>disagree</th>
<th>agree</th>
<th>agree completely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have control over my own life.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. I'm easy to like.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. I never feel down in the dumps for very long.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I can never seem to achieve anything worthwhile</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. There are lots of things I would change about myself if I could.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. I'm not embarrassed to let people know my opinions.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. I don't care what happens to me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. I seem to be very unlucky.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Most people find me reasonably attractive.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. I'm glad I'm who I am.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Most people would take advantage of me if they could.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. I am a reliable person.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. It would be boring if I talked about myself.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. When I'm successful there is usually a lot of luck involved.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. I have a pleasant personality.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. If a task is difficult that makes me all the more determined.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>disagree</td>
<td>disagree</td>
<td>agree</td>
<td>agree</td>
</tr>
<tr>
<td>---</td>
<td>----------</td>
<td>----------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>17. I often feel humiliated.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. I can usually make up my mind and stick to it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. Everyone else seems much more confident and contented than me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. Even when I quite enjoy myself there doesn't seem much purpose to it all.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. I often worry about what people are thinking of me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22. There is a lot of truth in the saying &quot;what will be, will be&quot;.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23. I look awful these days.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24. If I really try I can overcome most of my problems.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25. It's pretty tough to be me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26. When people criticise me I often feel helpless and second rate.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27. I feel emotionally mature.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28. When progress is difficult I often find myself thinking it's just not worth the effort.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29. I can like myself even when others don't.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30. Those who know me well are fond of me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX 6.

CURRENT ATTITUDES TO MENOPAUSE
1997.
SURVEY OF CURRENT ATTITUDES TO MENOPAUSE.

Thank you for agreeing to take part in this survey. First some general questions. Please tick one box per question unless otherwise indicated.

PART 1.
1. What is your marital status now?
   - 1) widowed
   - 2) married
   - 3) de facto/in partnership
   - 4) separated
   - 5) divorced
   - 6) single

2. Have you been married/in marriage-type partnership more than once?
   - 1) yes
   - 2) no

3. How long with present partner (in years)?

4. How old are you?
   - 1) 40 - 50 years
   - 2) 51 - 55 years
   - 3) 56 - 65 years

5. If you have a husband/partner is she/he employed/retired?
   - 1) yes
   - 2) no

6. Do you live in a house which you —?
   - 1) own outright
   - 2) own with mortgage
   - 3) rent
   - 4) other
PART 2.
PERSONAL CIRCUMSTANCES. [49 questions, please tick appropriate box(es)]

7. Please indicate the highest qualification you hold at present.
   (please tick one only)
   □ 1) School Certificate
   □ 2) University Entrance
   □ 3) Bursary
   □ 4) Tertiary qualification (eg. university degree, polytechnic certificate/diploma, 
       commercial certificate, papers toward one of these)
   □ 5) postgraduate degree (eg. honours, masters, PhD)

8. Are you presently in paid employment outside the home?
   □ 1) full time, (30 hours or more)
   □ 2) part time
   □ 3) no

9. Do you do volunteer work?
   □ 1) yes
   □ 2) no

10. How many hours per week do you spend on voluntary work?
    (tick nearest)
    □ 1) less than 4 hours
    □ 2) 4 - 8 hours
    □ 3) 9 - 16 hours
    □ 4) more than 16 hours

PTO
11. From the categories below, indicate the range into which your own income, before tax, falls. (include all income)

☐ 1) under $10,000
☐ 2) $10,000 - $14,999
☐ 3) $15,000 - $19,999
☐ 4) $20,000 - $29,999
☐ 5) $30,000 - $39,999
☐ 6) $40,000 - $49,999
☐ 7) $50,000 - $65,000
☐ 8) more than $65,000

12. Does your partner/husband make a financial contribution to the upkeep of the household?

☐ 1) yes
☐ 2) no

13. Do you both have the same or similar values and priorities?

☐ 1) yes
☐ 2) no

14. Do you consider yourself to be financially --?

☐ 1) well-to-do
☐ 2) comfortable
☐ 3) restricted
☐ 4) in difficulty

15. How many years altogether, have you been in the paid workforce?

(include part time years)

☐ 1) none
☐ 2) up to 5 years
☐ 3) 6 - 10 years
☐ 4) 11 - 20 years
☐ 5) more than 20 years
16. Are you in business, your own or joint (include farming)?

☐ 1) yes
☐ 2) no

17. Who makes the major decisions in your household, including financial ones?

☐ 1) me
☐ 2) partner/husband
☐ 3) jointly made
☐ 4) me, except financial ones

SOCIAL SUPPORT.

18. Who do you mainly confide in? (please tick no more than two)

☐ 1) no-one
☐ 2) partner/husband
☐ 3) friend(s)
☐ 4) brother/sister
☐ 5) child
☐ 6) a health professional
☐ 7) parent/other relative

PHYSICAL AND MENTAL WELLBEING AND HEALTH.

19. Do you think you are -?

☐ 1) very healthy
☐ 2) above average
☐ 3) average
☐ 4) below average
☐ 5) in poor health
20. How often do you visit your G.P.? (tick nearest)

1) monthly
2) once in 3 months
3) once in 6 months
4) once a year
5) very rarely

21. Has this been your usual pattern of visiting your G.P. in the last 10 years?

1) yes
2) no

22. Do you take prescribed medication, or 'over the counter' medications regularly?

1) yes
2) no

23. What kind of medications are these? (may be more than one)

1) vitamins/minerals (e.g. vitamin C, calcium supplement, herbal)
2) for chronic illness (e.g. diabetes, hypertension, asthma.)
3) for psychological disorder
4) hormone replacement therapy/ menopause support
5) contraceptive pill

24. Do you look after elderly parents or relatives, either your own or your partner's/husband's?

1) yes
2) no

25. If 'yes', how many hours per week? (tick nearest)

1) 1 -3
2) 4 -8
3) 9 -16
4) parent(s) live with you
26. How many children do you have?

- [ ] 1) none
- [ ] 2) one
- [ ] 3) two/three
- [ ] 4) four or more

27. Your age at first pregnancy?

28. Your age at last pregnancy?

29. How old are your children now? [tick appropriate box(es)]

- [ ] 1) pre-schoolers
- [ ] 2) primary schoolers
- [ ] 3) secondary schoolers
- [ ] 4) at a tertiary institution and less than 25 years
- [ ] 5) adult

30. How many of them live with you half of the time or more?

- [ ] 1) none
- [ ] 2) 1-2
- [ ] 3) more than 2

31. Are they employed? (include tertiary students as employed)

- [ ] 1) all
- [ ] 2) some
- [ ] 3) none

MENSTRUAL HISTORY.

32. How old were you when you had your first period?

33. Did you know about menstrual periods before they commenced?

- [ ] 1) yes
- [ ] 2) no
34. How did you feel when your first period started?

- [ ] 1) pleased
- [ ] 2) relieved
- [ ] 3) upset
- [ ] 4) distressed
- [ ] 5) neutral

35. Who first told you about menstrual periods and reproduction?

(please tick one only)

- [ ] 1) mother/stepmother/foster mother
- [ ] 2) sister
- [ ] 3) father
- [ ] 4) other relative, eg. grandmother/aunt
- [ ] 5) teacher/health professional as formal lesson
- [ ] 6) friend/other source
- [ ] 7) no-body

36. Have you ever suffered from PMS, pre-menstrual syndrome; ie. noticeable changes in your mood and/or behaviour leading you to feel out of control for part of your menstrual cycle?

- [ ] 1) not at all
- [ ] 2) occasionally
- [ ] 3) frequently

37. If 2 or 3 above, did/does this require treatment by a health professional?

- [ ] 1) yes
- [ ] 2) no

38. Are you still having periods?

- [ ] 1) regularly
- [ ] 2) not regularly in the last three months
- [ ] 3) stopped for at least a year
- [ ] 4) had hysterectomy
39. If you have had a hysterectomy was it because of - ?
   (may be more than one)
   □ 1) heavy bleeding
   □ 2) fibroids/benign growths/endometriosis
   □ 3) cancer
   □ 4) pain
   □ 5) other

40. If you have had a hysterectomy do you still have any ovaries ?
   □ 1) yes
   □ 2) no
   □ 3) not sure

41. Women have different feelings about the time when their menstrual periods stop. Which best describes your feelings ?
   □ 1) regret
   □ 2) relief
   □ 3) mixed
   □ 4) neutral

42. Would you like to make brief comments to explain your feelings in question 41 ? Please do so in the following space.

43. Do you have any of the following symptoms that you associate with menopause ? (may be more than one)
   □ 1) hot flushes
   □ 2) heavy bleeding
   □ 3) fatigue
   □ 4) anxiety/tension
   □ 5) vaginal dryness
   □ 6) insomnia
   □ 7) none of the above
44. Do you think that women's sexual attractiveness changes after menopause? (menopause is the time when the last menstrual period ends; may be more than one answer.)

☐ 1) yes
☐ 2) no
☐ 3) haven't thought about it concerning my relationship
☐ 4) haven't thought about it concerning other women
☐ 5) haven't thought about it at all

45. Would you like to comment briefly about your answer question 44? Please do so in the following space.

46. Do you think this present time in your life is - ?

☐ 1) first rate
☐ 2) good
☐ 3) fair
☐ 4) not so good
☐ 5) grim

47. Is there a reason why this is so, that has some bearing on the subject of this survey, i.e., do you think it is related to the midlife years and/or cessation of menstruation? Please be brief.
48. Number in order of their importance to you, the following areas in your life, 1 to 7 (with 1 = most important, 7 = least important.)

- [ ] occupation/career
- [ ] family life
- [ ] husband's/partner's career and/or interests
- [ ] friendships
- [ ] cultural life/spiritual life
- [ ] service to others
- [ ] other (please state)

49. How satisfying is your relationship with your partner/husband?

- [ ] 1) very satisfying
- [ ] 2) quite satisfying
- [ ] 3) not satisfying

50. There can be no doubt that the time around menopause is a time of change for midlife women. Please tick all the statements with which you agree.

- [ ] 1) menopause will be/was a great change.
- [ ] 2) menopause is just the beginning of another stage in my life
- [ ] 3) menopause is the beginning of a better stage in my life
- [ ] 4) Gains will be/were greater than losses.
- [ ] 5) Losses will be/were greater than gains.
- [ ] 6) This is/was the beginning of the end.
- [ ] 7) I didn't/don't think that much actually happens at menopause, apart from my periods stopping.

51. Do you wish to comment briefly on question 50 above? Please do so in the following space.
52. Number in order of their importance to you, your concerns and interests, apart from work, 1 to 4, as in question 47, above.

- People (i.e. children, parents, friends)
- Problems (i.e. loneliness, health, time pressures)
- Interests (i.e. political, social issues, religious concerns, philosophical issues, intellectual pursuits)
- Feelings (i.e. sense of inner change, time to begin something, time to modify something, time to end something)

53. If you wanted to change something of great personal importance in your life, do you think you could?

- 1) yes
- 2) yes, with help
- 3) couldn't
- 4) haven't thought about it

54. Would you like to comment briefly on question 53 above? Please do so in the following space.

55. Number in order of their importance to you, the following statements down to 5. (1 = most important, 5 = least important.)

- I am independent/competent.
- I know what I want most of the time.
- I can't change the past, but I can control my future.
- I can usually see the funny/brighter side of life.
- I can take care of myself.
56 Number the following statements in order of importance, as they apply to you; 1 = most important, down to 5 which is the least important to you of the 5 statements.

☐ If others around me are happy so am I
☐ I frequently need advice about what I ought to do
☐ I often give way in a discussion or argument for the sake of peace
☐ The goals of those close to me are more important than my own
☐ I find it hard to criticise others even when it is necessary.

57. Is there a service of any kind in your area where you could get advice about your concerns, either health / work / family / finances / education or any other type of support?

☐ 1) yes
☐ 2) no
☐ 3) haven't looked

Thank you very much for assisting in this research. Please put the consent form and the completed questionnaires in the pre-paid envelope provided and post it, together with any queries or comments you may have, as soon as possible.

Please check that you have -

☐ signed the consent form
☐ read the confidentiality statement
☐ answered all the questions that you can
☐ indicated that you want to receive a report of results