
**"SYMPTOMATOLOGY OF MENOPAUSAL TRANSITION IN WOMEN
BETWEEN 40 TO 55 YEARS TO FIND THE PREDOMINANCE OF
SYMPTOMS DURING THE VARIOUS STAGES OF MENOPAUSE
- ONE YEAR CROSS SECTIONAL STUDY"**

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DISSERTATION

**SUBMITTED TO
KLE UNIVERSITY, BELGAUM
KARNATAKA
IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SURGERY
IN
OBSTETRICS AND GYNAECOLOGY**

**Under the Guidance of
Dr. J. C. SHRAVAGE M.D., D.G.O.
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**DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY,
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MAY – 2009

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ACKNOWLEDGEMENTS

No dissertation can be completed without the help of many individuals.

*It is with great privilege, that I express my most humble gratitude to my teacher and guide **Dr. J.C. Shravage** M.D., Professor, Obstetrics and Gynaecology, J. N. Medical College, Belgaum for her guidance, able supervision, and valuable suggestions throughout the study. She has made me realize that there is no substitute for hard work and ensured that I left no stone unturned in the completion of this dissertation. I consider myself fortunate to have worked under her and benefited from her vast experience and immense knowledge. Also, only because of her continuous encouragement could this same thesis topic be presented at 51st AICOG 2008 at Delhi.*

*It gives me pleasure to express my gratitude and sincere thanks to **Dr.B.R.Desai** M.D., Professor and Head, Department of Obstetrics and Gynaecology, J.N.Medical College, Belgaum for his valuable suggestions.*

*Hereupon, I also extend my gratitude to **Dr. B. R. Nilgar** M.D., Professor, **Dr. M.K. Swamy** M.D Professor, **Dr. (Mrs.) S.M. Kodliwadmth** M.D., Professor, **Dr. M. B. Bellad** M.D., Professor, **Dr. Shobhana Patted** M.D.,D.G.O.,D.N.B. Professor, **Dr.Kamal Patil** M.D., Professor, **Dr. M.C. Metgud** M.D., Associate Professor, **Dr. Anita. Dalal** M.D., Assistant Professor, **Dr. Yeshita Pujar** M.D., Associate Professor, **Dr. Hema A. Dhumale** M.D., Assistant Professor, **Dr. Bhavana Sherigar** M.D , Assistant Professor, **Dr.Geeta Durdi** M.D., Assistant Professor, **Dr. B. M. Kolli** M.D , Assistant Professor, **Dr.Sasmita Das** M.D. , Assistant Professor, **Dr. Mahesh Koregol** M.D. , Assistant Professor, **Dr. Pramila Koli** D.N.B., Assistant Professor, **Dr.Sunanda M** M.D., Assistant Professor, Department of Obstetrics and Gynaecology, J. N. Medical College, Belgaum for their valuable guidance and encouragement.*

*I am grateful to **Dr. V.D. Patil** M.D., D.C.H., Principal, J. N. Medical College, Belgaum, and **Dr. M. V. Jali** M.D., Medical Director and Chief Executive, for permitting me to utilize the facilities at the Medical College and at K. L. E. Society's Dr. Prabhakar Kore Charitable Hospital and Medical Research Centre, Belgaum to carry out the present study.*

*I would like to thank **Mr. Dhareshwar** M.Sc., M.Phil., Professor of statistics in Gogte Commerce College, Belgaum, for his valuable help in the statistical analysis of the study. Also, timely help of **Dr. Smita Chougule** MBBS, research officer ICMR is appreciable.*

*I am indebted to **my grandparents**, to **my father** for being more than a friend, philosopher and guide, and to **my mother** for being my pillar of strength. I would also like to thank my brother **Dr. Srinivas** for his understanding and love.*

*I am grateful and cherish the support my colleague, roommate and friend **Dr. Amit Mathew**, for helping me with the dissertation work.*

*I would like to acknowledge the tireless work of **Mr. Mahesh Desai** of **Malta Computers** for excellent data processing and compilation of this manuscript.*

*Most importantly I thank the backbone of this study, **my patients**, for their co-operation and participation.*

Last but not the least, I express my everlasting gratitude to the Almighty God, for protecting me and showing me the right path through this gratifying task.

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ABBREVIATIONS

FMP	Final menopausal period
HRT	Hormone replacement therapy
STRAW	Stages of reproductive aging workshop
SWAN	Study of women's health across nation

ABSTRACT

TITLE :

Symptomatology of menopausal transition in women between 40 to 55 years to find the predominance of symptoms during the various stages of menopause. - One year cross sectional study.

BACKGROUND & OBJECTIVE:

To determine the prevalence of various symptoms during various stages of menopausal transition.

METHODS:

A cross sectional information regarding symptoms from 475 women between 40 to 55 years attending women health clinic, at KLEs Hospital was collected. Menopausal status was identified on the basis of answers to a series of questions about menstrual patterns. Inclusion criteria were all women between 40 to 55 years of age. Exclusion criteria being women who have reported having taken estrogen and / or progestin in past 3 months; those pregnant and/ or breast feeding, those who did not have menses due to 'surgical' menopause; severe weight loss, radio-therapy and chemotherapy and those who could not remember their menstrual history. Women included in the present study were staged into Premenopause, Early peri-menopause, late peri-menopause and post-menopause.

RESULT & CONCLUSION :

456 women satisfied inclusion criteria. The most common symptom reported among all stages of menopause is bone pain having a prevalence of 44.3%. Hot flashes and night sweats had prevalence of 20 to 21% among all women analyzed. Vasomotor symptoms were more common in late peri-menopausal period. There is a symptom clustering among vasomotor symptoms, depression, difficulty sleeping and they increase during the late - perimenopausal period ($p=0.001$).

Further longitudinal studies are needed in an Indian setup with regard to the subject to arrive at specific treatment approaches depending on various stages of menopause.

Key Words: menopause ; transistion ; symptoms.

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INTRODUCTION

MENOPAUSE is a stage of life through which every woman has to pass. In simple language it means permanent age-related stoppage of monthly menstrual bleeding. Menopause marks the end of reproductive capacity of women and results from the permanent cessation of ovarian follicular activity. Natural menopause is a gradual process that occurs for most women between 47 and 55 years of age.¹ The menopause is derived from the Greek words 'Menos' (month) and 'Pausis' (cessation). It may be defined as the last menstrual period and the diagnosis can only be made retrospectively, after a minimum of one year's amenorrhoea.

It is confirmed by the absence of menstrual periods for 12 consecutive months, excluding other obvious pathological or physiological causes.² Because of the relatively wide age range (40 to 58 years) for the onset of spontaneous menopause, chronological age is a poor indicator of the beginning or the end of menopausal transition. The mean age has remained 48 to 50 years despite an increase in longevity. The post-menopausal phase covers about one-third of a woman's life. In this region most of the women experience menopause at around 45 years of age and under-nourishment may be a cause for the early onset development.³

Women who reach menopausal stage prematurely or suddenly due to the surgical removal of ovaries suffer more distressing symptoms as outlined below. The cause of menopause and the associated symptoms is believed to be due to the hormonal changes that occur at this age/stage. This stage requires care and attention by the husband and other family members of the woman, besides her gynaecologist to keep her in good

mental and physical health. Supervision by the gynaecologist will save her from a number of health problems and risks. This will also give an insight into the health status of her husband, which may otherwise be neglected. It is important to remember that all women need regular check-ups by a gynaecologist as they approach middle age.

At this age most women start suffering from one or more unwelcome symptoms which are by and large divided into vasomotor, genitourinary, cardiovascular, psychological symptoms.

Among the vasomotor ones- hot flushes and night sweats are the most prominent ones. Also, menstrual periods become irregular. The genitourinary symptoms being vaginal dryness, dribbling of urine on straining etc. Among the sexual ones there is lack of sexual desire, fear and loss of libido involved. The psychological symptoms include mood swings, irritability, lack of concentration, lack of decision-making power, anxiety, depression, feeling of dread, apprehension, doom, disorientation, mental confusion, disturbing memory lapses and lack of sleep.

Other general symptoms are pain in bones, joints and muscles, weight gain, rough and inelastic skin, gastrointestinal distress, indigestion, flatulence, depression, hair loss and thinning of hair on head. etc.

Other symptoms may be cardiovascular in origin. More importantly, with the advent of menopausal age, the incidence of heart disease and fractures due to bone weakening also increases.

Prevention: To prevent unwelcome symptoms and serious health hazards, the middle age women must institute lifestyle and attitudinal changes, well in time. The best time to make the first visit to a gynaecologist is at the onset of peri-menopause i.e. a few years before the menses stop; when there may be the onset of some symptoms like hot flushes or even if one has not suffered symptoms but have past 40 years of age. Also being unaware, women tend to suffer in silence; this could disrupt their family and personal life. Hence, it is essential to enlighten them about these symptoms and provide physical and emotional support.

Also, this is the age at which the incidence of diseases like diabetes, obesity, hypertension and genital and breast malignancies need to be recognized and timely intervention instituted. While starting with the specific therapy, the gynaecologist should explain about the essentials of diet, exercises, yoga, joining of a self-help group or a menopause club etc. with an intention to recognize and treat menopausal symptoms and hence, open the doors for early detection and necessary intervention that need to be done in cases of breast and cervical malignancies.

NEED FOR STUDY

Although the menopause occurs at an average age of 51 years, the physiological changes which result in the final menstrual period (FMP) can start 10 years prior to this.⁴ Hormonal changes continue long after the FMP. This episode of dynamic neuroendocrine change is characterized by 'the climacteric' from the Greek word 'Klimax' meaning ladder, i.e. the climb to the menopause. It may be associated with distressing clinical problems such as menstrual irregularity and vasomotor symptoms. The intermediate sequelae of these changes are typically seen in the skin and urogenital tract and in the long term, in skeletal and cardiovascular pathology.

Most of the information on symptoms of menopause has been obtained from the populations in industrialized countries and sparse information is available from an Indian set up. The association between changes in menopausal status and menopause related symptoms during the menopausal transition is not well understood in an Indian context. It is essential to know the same here due to changes in life style, nutrition, built and socioeconomic status.

This study would generate a baseline data; hence help treat patients appropriately for a particular symptom for a specific phase of menopausal transition rather than give a blanket treatment for a number of symptoms beginning from premenopause phase onwards. Also, much of attention is given to the symptoms after menopause and on HRT. However, endocrine changes have shown that these symptoms are related to the oestrogen deficient state, which begins in transition from reproductive to menopausal period. Hence, this study is undertaken to know the various symptoms, which come during the transition period of an Indian women i.e., between 40 to 55 years.⁵

Arguments against universal menopausal syndrome have concluded that future research is needed on how symptoms are interrelated, what factors are uniquely related to vasomotor symptoms and identifying whether there is any subgroup of women who are more likely to report these symptoms. The central idea of the present study has been taken from NIH state of the science, conference on management of menopause related symptoms.⁶

OBJECTIVE

To generate a baseline data to know the predominance of various symptoms of menopause, at various stages of menopausal transition so that future better counselling and specific treatment will be available to improve health care.

REVIEW OF LITERATURE

In a study of mid age health from Indian sub continent three groups of women were examined and compared for their experiences of menopausal symptoms and quality of life - Migrated Asian population (UKA) from Indian subcontinent living in Birmingham, UK; with matched sample of Caucasian women (UKC) living in the same geographical region; with matched sample of Asian women (DEL) with similar socioeconomic background living in Delhi, India. The results concluded that the menopausal symptoms (hot flashes and night sweats) experienced by the women in Delhi were significantly fewer (32%) compared to Asian immigrants (75 %) and Caucasian (60.5%) $p = 0.001$. The prevalence of night sweats is as follows- UKC 50%, UKA 56.9%, DEL 24% ($p = 0.002$). The prevalence of vaginal dryness was highest in UKA (38.2%) and lowest in DEL group (7.3%). The results also concluded Asian women living in the Birmingham, UK and those in Delhi, India shared common experiences of poor health and report of more physical and emotional symptoms.⁷

Hot flushes and night sweats are the symptoms most consistently associated with menopause, although their prevalence varies in different cultures. For example, the prevalence has been reported to be 23% in Thai women, 32% in Pakistani women, 45% in North American women.^{8,9,10}

In longitudinal analyses among 8623 Australian women aged 45 to 50 years, adjusting for socio-demographics and life style, women who transitioned from pre to peri menopause or who remained peri menopausal over the 2 years between surveys reported the greatest increase in hot-flashes and night sweats. Those transitioning from

premenopause to perimenopause showed some increase in tiredness, stiffness and difficulty sleeping, whereas those who transitioned from perimenopause to postmenopause reported increases in back pain and leaking urine.¹¹

In a study among 725 women at Chandigarh, 298 (41%) had attained menopause, 47 (6.5%) were in transition and 43 (5.9%) had undergone hysterectomy. The transition phase lasted for 1-12 months in 48.7% of cases and for one year or more in 20.8% of cases. No transitional changes were reported by 30.5% of women. A change in menstrual pattern was the hallmark of this phase and included delayed periods (37.6%), heavy bleeding (13%), scanty periods (7%) or a mixed pattern (11.7%). The majority of women interviewed (76%) did not experience any tension on attainment of menopause. Diminished acuity of vision was the most common reported menopausal symptom. Hot flushes were reported by 17.1% of women. They concluded that although north Indian women experienced various symptoms at menopause, they largely ignored these, while welcoming the freedom from menstruation related worries.¹²

In study conducted on 483 women of Rajput caste in India, few women had any problems with menopause other than cycle changes. Subjects reported no depression, dizziness or incapacitation. This low incidence of depressive features could be attributed to family support that is provided in Indian families.¹³

The Melbourne Women's Midlife Health Project found that the severity of several symptoms - trouble sleeping, vaginal dryness, night sweats, and hot flashes - increased from premenopause to late perimenopause or postmenopause. The other symptoms evaluated by them were not significantly related to changes in menopausal status. These

results also supported the conclusion drawn in a review of symptoms during the menopausal transition that vasomotor symptoms show a marked temporal association with the menopause, whereas other symptoms do not.^{14,15}

SYMPTOMATOLOGY OF MENOPAUSE :

Vasomotor symptoms : *hot flashes, night sweats*

The vasomotor flush is viewed as a hallmark of female climacteric, experienced to some degree by most menopausal women. The term “hot flush” is descriptive of a sudden onset of reddening of skin over the head, neck and chest, accompanied by a feeling of intense body heat and concluded by sometimes-profuse perspiration. The duration varies from a few seconds to several minutes and, rarely, for an hour. The frequency may be rare to recurrent every few minutes. Flushes are more severe and recurrent at night (when a women is often awakened from sleep) or during times of stress. In cool environment, hot flushes are fewer, less intense, and shorter in duration compared with a warm environment.

However, the physiology of hot flush is still not understood and is apparently thought to originate in the hypothalamus being brought by a decline in oestrogen levels.^{16,17}

Genito - urinary symptoms :

Vaginal dryness : With extremely low estrogen production in the late post menopausal age, or many years after castration, atrophy of the vaginal mucosal surface takes place. This is accompanied by vaginitis, pruritis, dyspareunia and stenosis, affecting the ease and quality of living. Urethritis with dysuria, urinary incontinence and urinary frequency

are further results of mucosal thinning, in this instance, of urethra and bladder. Recurrent urinary tract infections are effectively prevented by postmenopausal intra-vaginal estrogen treatment.

Deprived of estrogen, the vagina loses collagen, adipose tissue, and the ability to retain water. As the vaginal wall shrinks, the rugae flatten and disappear. The surface epithelium loses its outer fibrous layer of cells, markedly reducing the ratio of superficial to basal cells. As a result the vaginal surface is left friable, prone to bleeding with minimal trauma. While these changes are occurring, the blood vessels in the vaginal wall narrow and secretion in the sebaceous gland diminish. Over time the vagina itself contracts and loses flexibility, while labia minora becomes paler and smaller. In addition pH becomes alkaline, making vaginal environment less hospitable to lactobacilli and more susceptible to infection by urogenital and fecal pathogens. Infecting organisms can ascend into urinary system to cause urethritis, urinary tract infection and cystitis.¹⁶

Dyspareunia, sometimes with post coital bleeding, is an inevitable consequence of a severely atrophied vagina and scanty lubrication. Even for women who are not sexually active, atrophic vaginitis cause itching, irritation and burning. These symptoms often go unmentioned. Measuring pH is a simple way to determine estrogen's influence or absence. A pH greater than 4.5 is almost always observed with estrogen deficiency.^{16,18,19}

Urinary incontinence : There are several forms of urinary incontinence. The most common type is stress urinary incontinence, which is characterized by involuntary loss of urine associated with straining. Urge urinary incontinence is characterized by loss of

urine accompanied by a strong desire to void. Many women have a combination of problems i.e. mixed urinary incontinence.¹⁶

The prevalence of incontinence increases as women age. However, it is unclear whether the hormonal changes associated with menopausal transition are independent risk factors for the development of incontinence.^{16,20} A prospective study of women's symptoms across the menopausal transition revealed no increase in "urine control problems" as women progressed from having regular cycles to 3 yrs post menopause. The prevalence of this complaint was approximately 15% for most points examined. In addition, when evaluating the prevalence of "significant" incontinence, a large epidemiological study from Norway found no significant increase at ages when women can be expected to be in the menopausal transition.¹⁴

In contrast to the findings mentioned above, the SWAN study found that peri menopausal status was a risk factor for the presence of any incontinence episodes and for the presence of moderate or severe incontinence compared with regularly cycling women. Moreover, perimenopausal status was a stronger and more consistent predictor than age. However, the study only included women in a small age range (42 to 52 yrs); hence, it remains unclear whether hormonal changes or aging phenomenon contributes to incontinence.²¹

Psycho-physiological effects:

Sleep Problems, depression, irritability, tension, nervousness : Sex steroids have been shown to have modulatory effects on brain monoamine receptors. Falling estrogen level may therefore contribute directly to mood changes and psychosomatic symptoms.

Vasomotor symptoms with night sweats often lead to chronic fatigue, sleep deprivation and hence indirectly to psychological symptoms like depression.²²

STAGING OF MENOPAUSE

Women neither initiate reproductive function (puberty) nor end it (menopause) at a particular chronological age. Both puberty and the menopausal transition are dynamic periods of the reproductive axis, during which development or senescence occurs relatively quickly. While there is a useful staging system for puberty (the Tanner/Marshall system) a similar staging system for late reproductive function has not been developed.²³

Various staging systems for menopause have come up. They are discussed in brief in the following tables-

Table 1 : Stages of reproductive Aging workshop (STRAW) staging system: ²³

Final menopausal period
(FMP)



Stages	-5	-4	-3	-2	-1	+1	+2	
Terminology	Reproductive			Menopausal transition		Postmenopause		
	Early	Peak	Late	Early	Late	Early	Late	
				Peri menopause				
Duration of stage	Variable			variable		A 1 Yr	B 4 Yrs	Until demise
Menstrual cycles:	Variable To regular	regular		Variable cycle length (> 7 days different from normal)	2 skipped cycles and an interval of amenorrhoea (60 days)	None		
Endocrine	Normal FSH		FSH	FSH		FSH		

An alternative staging of menopause has also been proposed by an Indian study, from Gujarat.²⁴

Table 2 : Staging of menopause, Anklesaria, 1997²⁴

Premenopause	Menopause	Two years
Stage I	Stage II	Stage III
Roughly one year before menopause	Up to two years after menopause	? life time
Early intermediate (premenopausal symptoms)	Late (post menopausal symptoms)	Post menopausal complications
IA Vasomotor instability IB Early psychosomatic symptoms	IIA Atrophic changes IIB Late psychosomatic symptoms	IIIA Residual atrophic changes IIIB Ischemic heart disease IIIB Very late complications e.g. Alzheimer's disease
PALLIATE !	TREAT !	PREVENT !

METHODOLOGY

Study design: Observational study.

Sample size: 475.

This was calculated taking 80% of the average of women between 40 to 55 years attending Department of Obstetrics and Gynaecology, OPD, KLES Dr. Prabhakar Kore Hospital and MRC, Belgaum.

Total cases between Nov 2003 to Oct 2006 = 1772. Average for three years 590.
Taking 80% of this average = 475.

Inclusion criteria:

All women between 40 to 55 years attending Department of Obstetrics and Gynaecology, OPD, KLES Dr. Prabhakar Kore Hospital and MRC, Belgaum.

Exclusion criteria:

1. All women who reported using estrogens and/ or progestin in the past 3 months.
2. Pregnant and breast feeding
3. Those who do not have menses due to -
 - a. Severe weight loss
 - b. Radio-therapy
 - c. Chemotherapy
4. Those who could not remember their menstrual history.
5. Those who did not consent.

All perimenopausal and premenopausal women who reported using estrogen and/or progesterone in the past 3 months were excluded as their observed menstrual bleeding may have been a result of hormone use rather than a reflection of true menopausal status.

Also, those pregnant or breastfeeding, or those with severe weight loss, radiotherapy or chemotherapy would have pattern of menopause away from normal; hence, excluded.

Methods:

As per the staging in the original article the women included in the present study were staged as follows :⁶

1. Premenopause: Women who reported menses in the previous three months with no irregularity.
2. Early peri-menopausal transition: Women with menses in the previous three months but who had experienced increasing irregularity in the cycle length over the past year.
3. Late peri-menopausal transition: Women with menses in the previous twelve months but not in the previous three months.
4. Post menopause: Not had menses for more than 12 months.

These women were briefed in their vernacular about the menopause and the various symptoms that they go through during this phase. They later were to answer a questionnaire of symptoms they experienced in past four weeks in objective format, i.e. Yes / No style.

The present study has not studied any of the symptoms as per severity, as it does not purpose to study any intervention and / or if symptoms subside following the same. If symptoms were severe enough for her to be noticed, then they have been taken into consideration.

Laboratory tests and clinical examination were not part of the present study and were carried out as and when necessary. However, they do not form a part of the present study, data analysis or results.

This is due to the fact that there are no reliable biochemical parameters to identify the menopause. An elevated FSH level has neither diagnostic nor prognostic value in the perimenopause, since ovulatory cycles can still occur after the levels are elevated. An elevated FSH value does not exclude the need for contraception. Also, laboratory tests have no consequences for the treatment policy to be followed. A literature study examining the role of FSH measurements in menopause and determining fertility in menopause, found that FSH levels in regularly menstruating women increases with age and fluctuated during menopause. It was concluded that during the transition period hormone levels frequently vary markedly; hence, measures of FSH and estradiol are unreliable guides to menopausal status.²⁵ Hence, the present study did not take hormone assay into consideration.

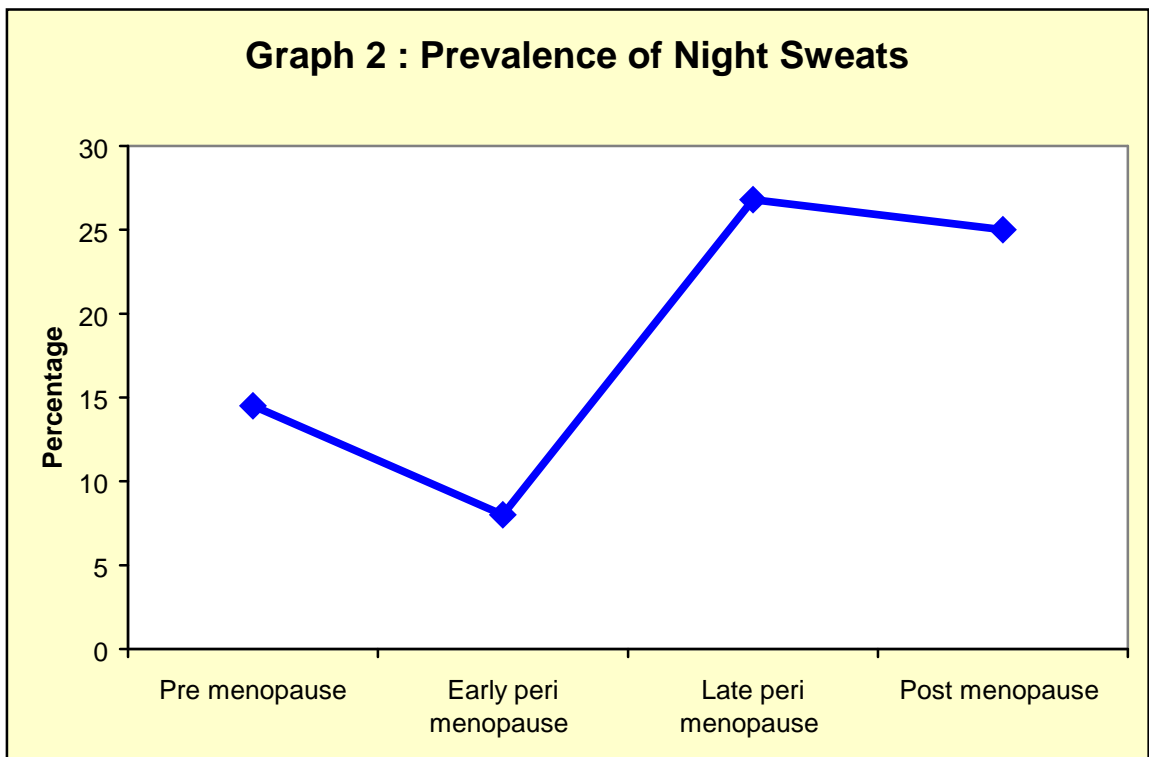
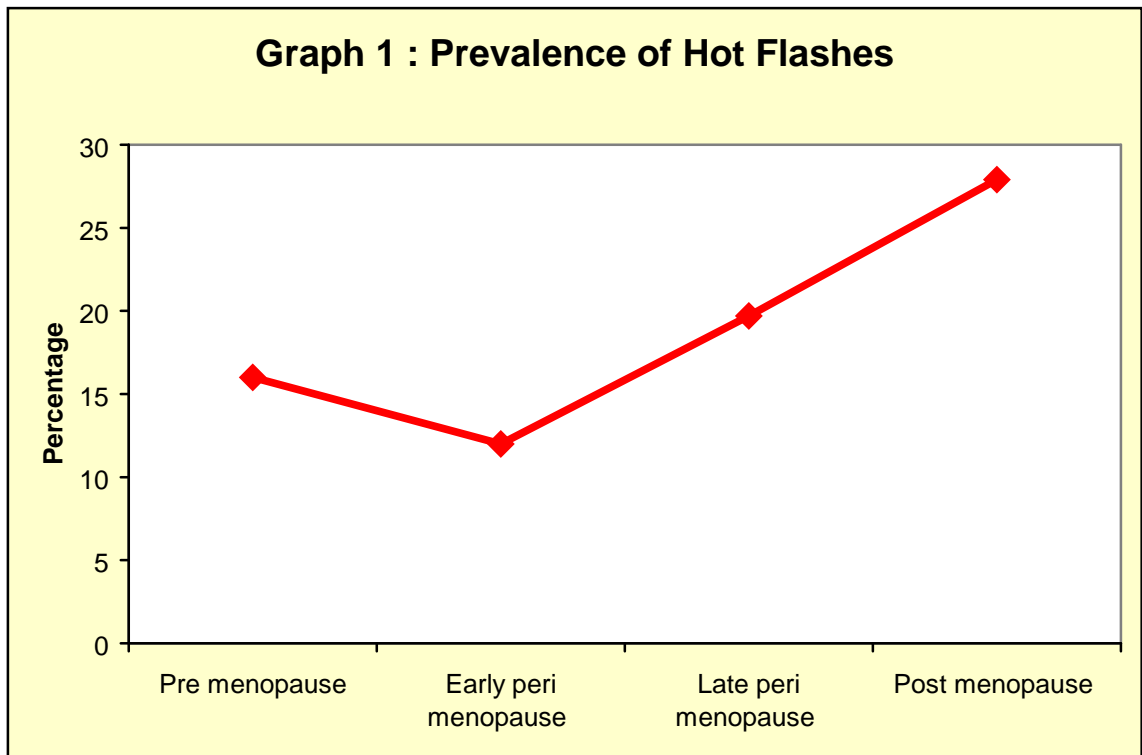
RESULTS AND DISCUSSION

Out of 475 women in present study, 456 satisfied the inclusion criteria. These women were divided into groups as per the proposed staging; 131 women were found to be in premenopause, 50 in early perimenopause, 71 in late peri-menopause and 204 in post menopause.

i. Vasomotor Symptoms: Night sweats, Hot- flashes.

In the present study, hot flashes and night sweats had a prevalence of about 21% and 20% respectively, among all women analyzed. Hot flashes increase from 16% in pre-menopause and early peri-menopause to 19.7% in late peri-menopause and 27.9% at post-menopause ($p=0.001$).

Similarly, night sweats increase from 14.5% in pre-menopause to 26.8% in late peri-menopause and 25% in post menopause ($p=0.001$). Vasomotor symptoms are more common in late peri-menopausal period and post menopausal period.



These changes are in congruence with western data which had a prevalence of 6 to 13% for those who had not begun the menopausal transition and increased as they progress from early to late perimenopausal transition.²⁶ Data from other studies had a prevalence of 4 to 46% and 33 to 63% in the late reproductive stage.^{27,28} For women who had completed menopause (STRAW post menopause, defined as 1 year with no menses) the prevalence rose to as high as 79%.²⁹

The correlation between the onset of hot flashes and estrogen reduction is clinically supported by effectiveness of estrogen therapy and absence of flashes in hypo-estrogen states, such as gonadal dysgenesis. Only after estrogen is administered and withdrawn do hypogonadal women experience hot flushes.^{16,30}

Although hot flashes are the most common problem post menopause, it presents no inherent health hazard. The flash is accompanied by a discrete and reliable pattern of physiological changes. The flash coincides with the surge of LH (not FSH) and is preceded by a subjective prodromal awareness that a flash is beginning. This aura is followed by a measurable increase in heat over the entire body surface. The body surface experiences an increase in body temperature, accompanied by changes in skin conductance, and followed by fall in core temperature, all of which can be objectively measured. In short, the flash is not a release of accumulated heat but is a sudden inappropriate excitation of heat release mechanisms. Its relationship to LH surge and temperature change within the brain is not understood.^{16,31}

Comparison with other studies :

Table 3 : Prevalence of vasomotor symptoms:²⁶

Study	Study population	Measures	STRAW MT Stage			
			Late reproductive	Early MT	Late MT	Postmeno
Healthy women study ^{26,32}	460 women aged 42- 50yrs	Check list of 27 symptoms administered in follow up examination	6 %	NA	NA	43 %
Melbourne women's midlife health project ^{14,26}	172 women who had made a transition to perimenopause (in 2000)	Symptoms over past 2 wks	10 %	15 %	42 %	42 % (1 yr)
SWAN ^{26,33,34}	16,065 women aged 40 – 55. Multi racial and multi ethni, 7 sites, community based sampling strategies	Self reported questionnaires, asked whether they had hot flashes/ sweats over the past 2 wks	19.4%	36.6 %	56.8 %	48.8 %
Penn ovarian staging study ^{26,35,36}	Women aged 35-47, randomly selected from community.	Standardized menopause symptom checklist regarding hotflashes over past month/ severity	37 %	48 %	62 %	79%
Present study	Women aged 40-55 yrs	Hot flashes over past 4 weeks	16%	12%	19.7%	27.9%
		Night sweats over past 4 wks.	14.5%	8%	26.8%	25%

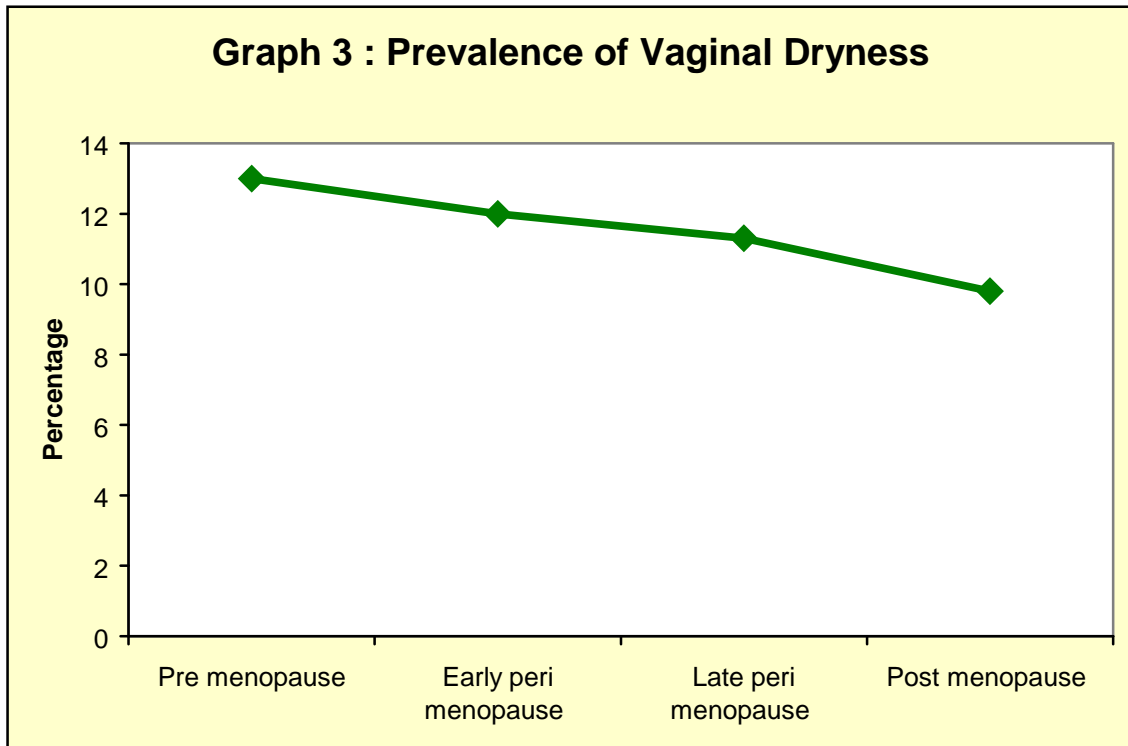
MT- menopausal transition, NA- estimate not available from published literature, SPEQ- Shortened personal experiences questionnaire, STRAW- staging and reproductive aging workshop, SWAN- Study of women's health across nation.

The present study shows that the prevalence of hot flashes increases with the woman's age. This could be attributed to decreasing estrogen levels in the early and more so; in the late peri-menopausal period as evidenced by various studies.^{33,34,35,36} We see that the Penn staging study^{35,36} compared to the SWAN^{33,34} shows a very high prevalence (79% v/s 48%). This could be due to the difference in the study population taken, which include ages between 35 to 47 years and 40 to 55 years in the two studies respectively. Possibly, as shown by these results itself, the woman's acclimatization of the body system as she ages, to the decreasing estrogen level could be responsible for decreasing vasomotor symptoms in the post menopausal period. However, we cannot conclude these findings in the present study, as this would require a long term longitudinal analysis and follow up methodology, instead of a cross sectional-one time survey. In addition to providing a base line result, the present study also opens the doors for long-term longitudinal studies on our population.

ii. Urogenital Symptoms :

Vaginal dryness:

The present study shows that the prevalence of vaginal dryness decreased from 13% in premenopause and 12% in early peri- menopause to 9.8% in the post menopausal stage.



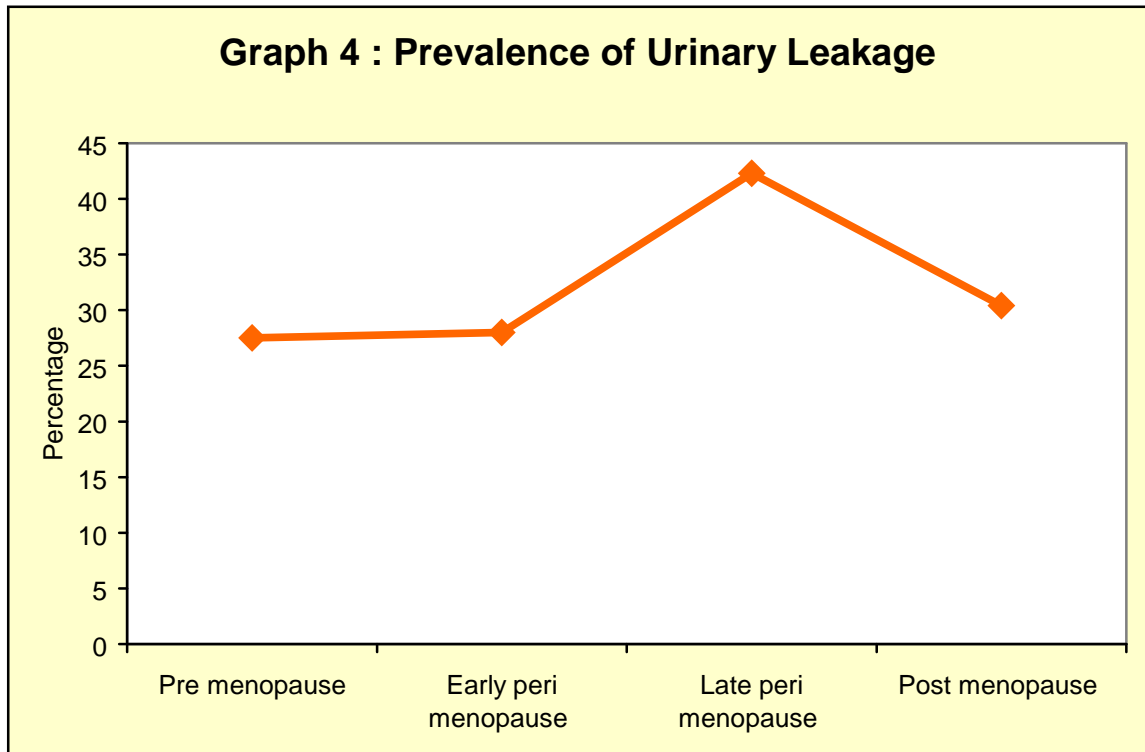
Comparison with other studies :**Table 4 : Prevalence of vaginal symptoms²⁶**

Study	Study population	Measures	STRAW MT stage			
			Late repro	Early MT	Late MT	Post meno
Melbourne women's midlife health project ^{26,37,38}	172 women who had made a transition to perimenopause or post menopause reported on symptoms.	Vaginal dryness over past 2 wks, frequency and bothersomeness; prevalence of bothersomeness	3%	4%	21%	25%
SWAN ^{26,33}	16,065 women aged 40 – 55 yr, participating in baseline survey.	Vaginal dryness over past 2 wks	7.1%	12.9%	18.2%	21.2%
Present study	456 women 40- 55 years.	Vaginal dryness over past 4 wks	13 %	12 %	11.3%	9.8 %

MT- menopausal transition, NA- Not available from published literature, SPEQ- Shortened personal experiences questionnaire, STRAW- staging and reproductive aging workshop, SWAN- Study of women's health across nation.

It can be inferred in the Melbourne women's health project and in the SWAN study that the prevalence of vaginal dryness shows a gradual increasing trend from premenopausal stage towards the post menopause.^{26,33,37,38} However, the present study shows a decreasing trend as depicted in the tabulation (Table 4). The possible explanation for the same could be the decreased sexual activity in our population during that period. However, in the present study sexual pattern has not been evaluated and hence, a conclusive comment cannot be made with regard to the seen decreasing prevalence for vaginal dryness.

Urinary Leakage:



The prevalence of urinary leakage increased from 28 % in pre menopause to 42.3% in the late perimenopausal period and 30.4% in the post menopausal period. ($p < 0.01$). Decreased estrogen leading to the epithelial dryness could be a contributory factor as discussed earlier.^{14, 16, 20, 21}

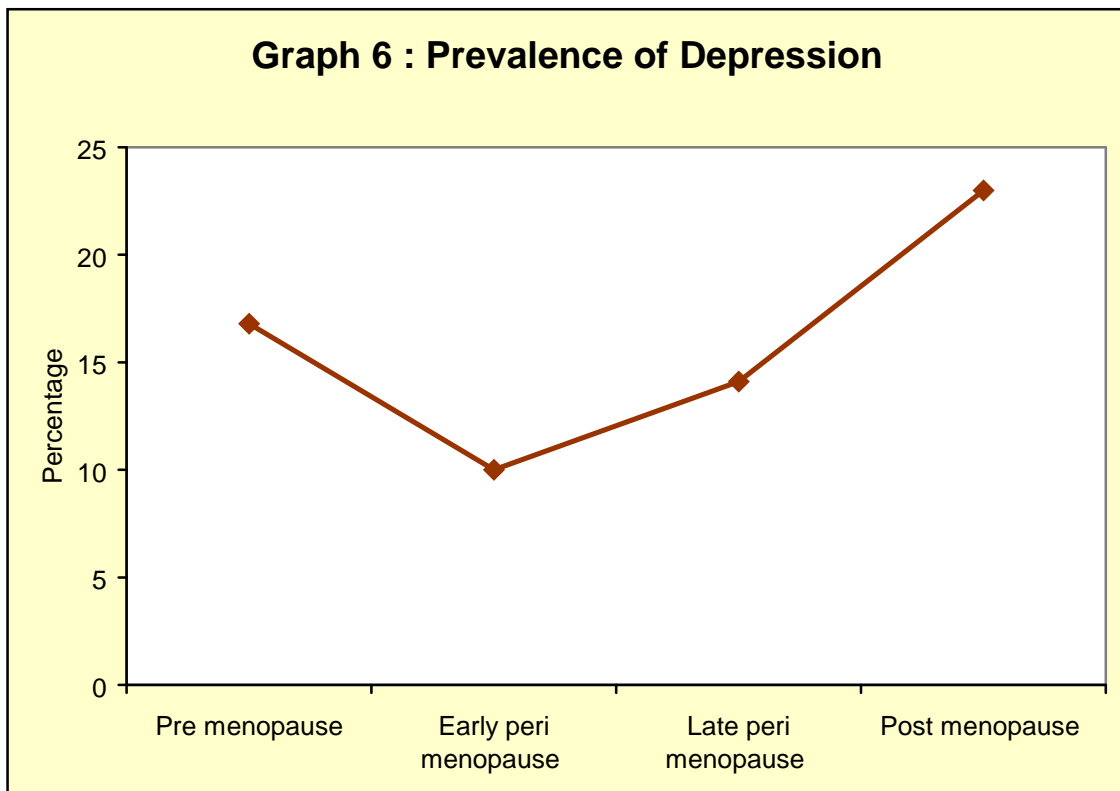
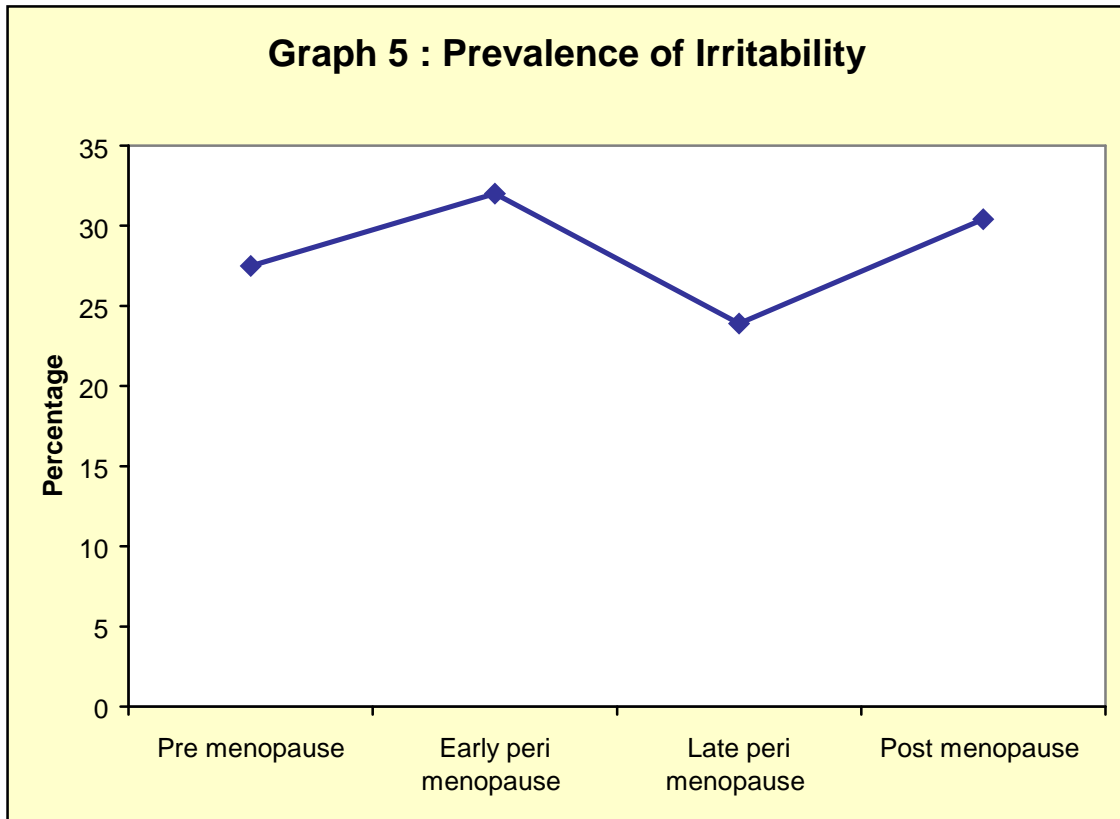
Comparison with other studies :

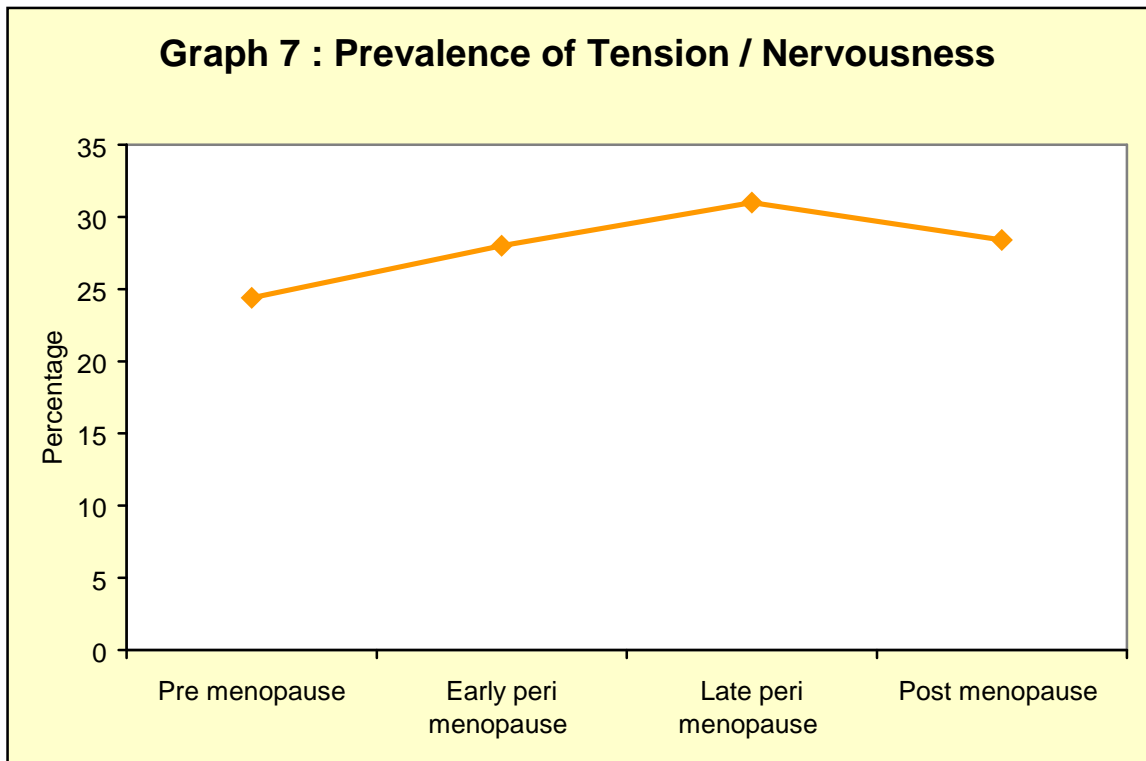
Table 5 : Prevalence of urinary symptoms- incontinence²⁶

Study	Study population	Measures	STRAW MT stage			
			Late repro	Early MT	Late MT	Post meno
Melbourne women's midlife health project ^{26,37,38}	172 women who had made a transition to perimenopause or post menopause reported on symptoms.	Urine control problems over past 2 wks	17%	12%	14%	14%
SWAN ^{26,33}	16,065 women aged 40 – 55 yr, participating in baseline survey.	Urine leakage over past 2 wks	12.3%	20.6%	19.6%	17.7%
Present study	456 women study aged 40-55 years	Urinary leakage over past 4 wks	27.5%	28%	42.3%	30.4%

MT- menopausal transition, NA- Not available from published literature, STRAW- staging and reproductive aging workshop, SWAN- Study of women's health across nation.

iii. Psychosomatic Symptoms:





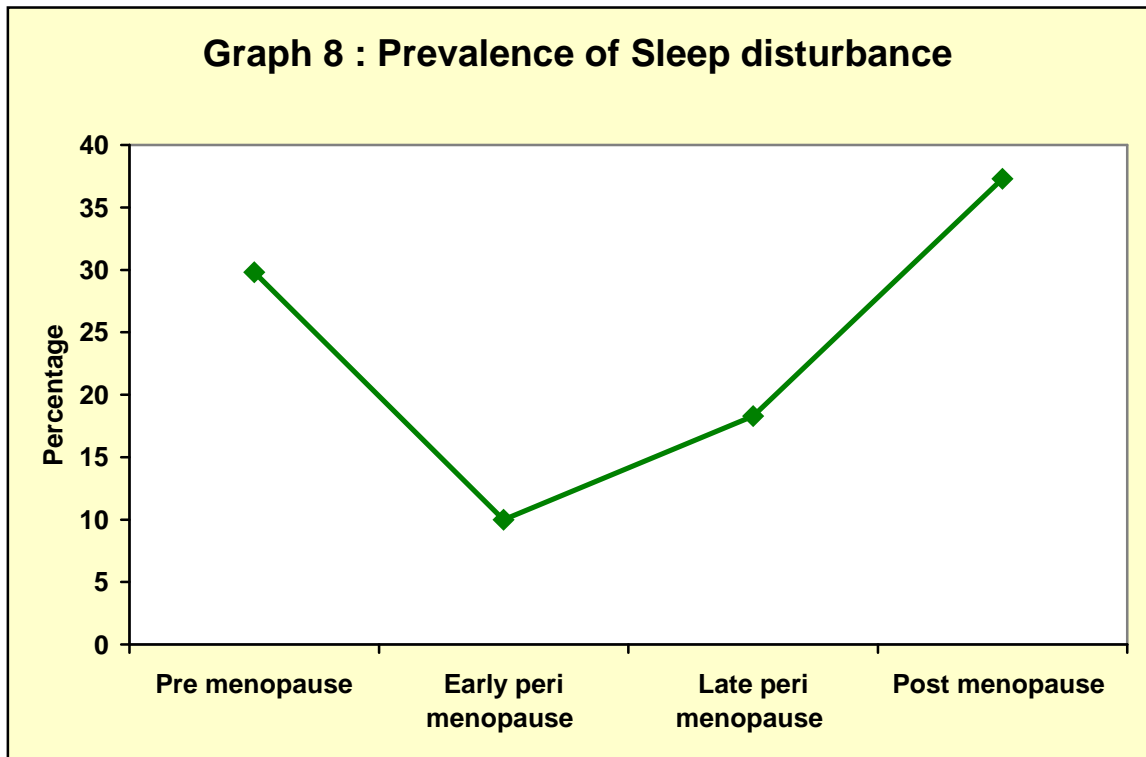
Comparison with other studies :

Table 6 : Prevalence of depressed mood symptoms²⁶

Study	Study population	Measures	STRAW MT Stage			
			Late reproductive	Early MT	Late MT	Postmeno
Healthy women study ^{26,39}	460 women aged 42- 50yrs	Beck depression inventory	4.5 %	NA	NA	5.9 %
Massachusetts women's health study ²⁶	2,352 white women aged 45- 55 yrs, randomly selected	Asked if sad or blue/ depressed over past 2 wks. (symptom checklist)	29.1 %	NA	28 %	33.8 %
SWAN ^{26,40,41}	16,065 women aged 40 – 55. Multi racial and multi ethni, 7 sites, community based sampling strategies	Dysphoric mood, feeling blue or depressed, irritable or grouchy, tense or nervous.	20.9%	NA	28.9 %	22%
Penn ovarian staging study ^{26,42}	Women aged 35- 47, randomly selected from community.	Interviews using CES-D conducted at base line	CES- D > 16%	1.4 – 7.8 %	13.1- 18 %	1- 13 %
		and 4 yrs later.	MDD 10- 13 %	1- 4%	< 1%	< 1%
Present study	Women aged 40-55 years	Depression in the past 4 weeks	16.8%	10%	14.1%	23%

CES-D = Centre for epidemiologic studies depression scale, MDD- major depressive disorder, MT- menopausal transition, NA- estimate not available from published literature, STRAW- staging and reproductive aging workshop, SWAN- Study of women's health across nation.

Social factors like bereavement, departure of children from home and changing life circumstances contribute significantly to menopausal psychological effects. In addition, there is an increased risk of developing depression even among those who have never experienced symptoms of depression before. Thus, depression during menopause may have a substantial impact on personal and professional spheres of life. A challenge to clinicians and health professionals lies in identification of the most tolerable treatments to manage depression and improve quality of life in aging women. Any treatment strategies should take into account not only the spectrum of side effects that may complicate treatment but also other menopause related factors such as, vasomotor symptoms and psychological stress, that modulate risk for the development of mood disturbances.²²

iv. Sleep disturbance:

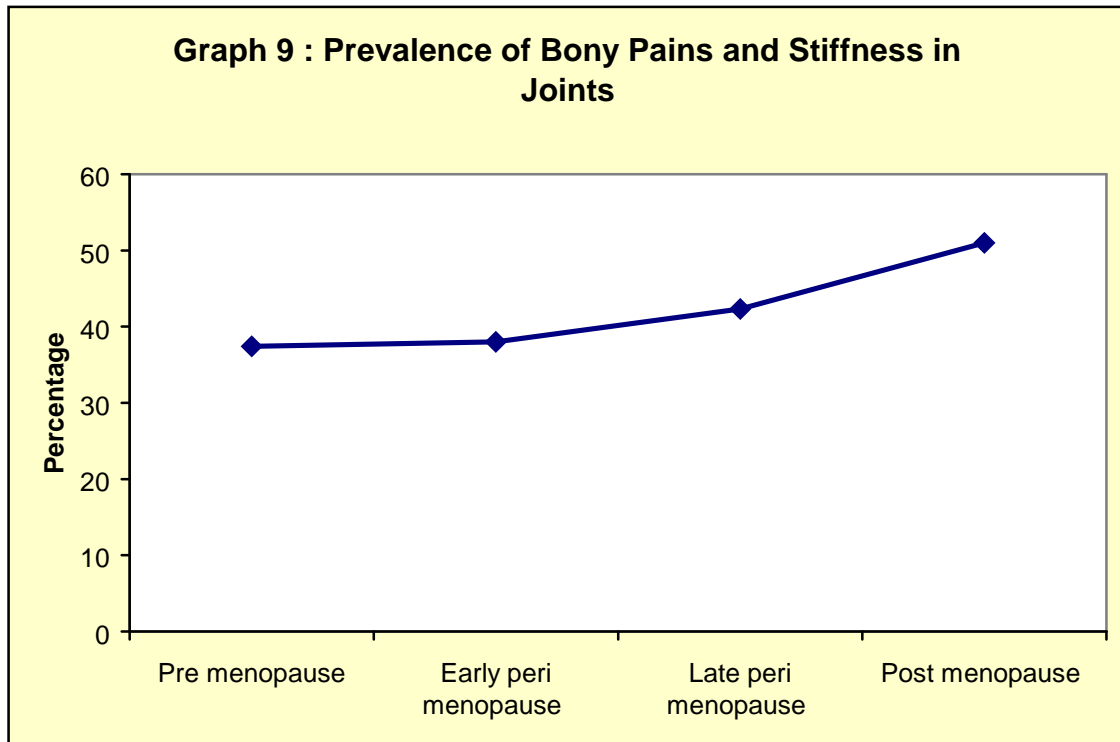
In the present study, prevalence of sleep disturbance is 29.8% in premenopause, 10% in early menopausal transition then increases to 18% in late perimenopause and 37% in post menopause.

In the present study, we find a correlation between sleep disturbance and depression. Both increase linearly as there is an increase in the hot flashes and night sweats. It may be possible that hormonal changes lead to hot flashes and night sweats, which would in turn lead to sleep disturbances and depression.

Comparison with other studies :
Table 7 : Prevalence of sleep disturbance symptoms²⁶

Study	Study population	Measures	STRAW MT Stage			
			Late reproductive	Early MT	Late MT	Postmeno
Melbourne women's midlife health project ^{14, 26,}	438 women observed for 7 yrs; 172 women advanced from pre menopause to perimenopause or to post menopause.	33 item check list administered annually: subjects indicated whether they had trouble sleeping	31 %	32%	38%	43.2%
SWAN ^{26,43}	12,603 women aged 40 – 55.	Self reported questionnaire. Subjects were asked if they reported difficulty sleeping in past 2 wks	31.4%	39.6%	45.5%	43.2%
Present study	Women aged 40-55 years	Sleep disturbance in the past 4 weeks	29.8%	10%	18.3%	37.3%

MT- menopausal transition, STRAW- staging and reproductive aging workshop, SWAN- Study of women's health across nation.

v. Bone pain, stiffness in joints :

In the present study, bone pain and stiffness in joints were the most prevalent symptoms among all the groups analysed. The prevalence of joint stiffness and pains increases from 37% in premenopause to 51% in the post menopausal period. Hence, calcium and vitamin D supplementation, and weight-bearing exercises, are important and should be a fundamental part of any programme intended to prevent bone loss or treat osteoporosis.

These values are in congruence with the western data published.^{26,33,37,38} (Table 8)

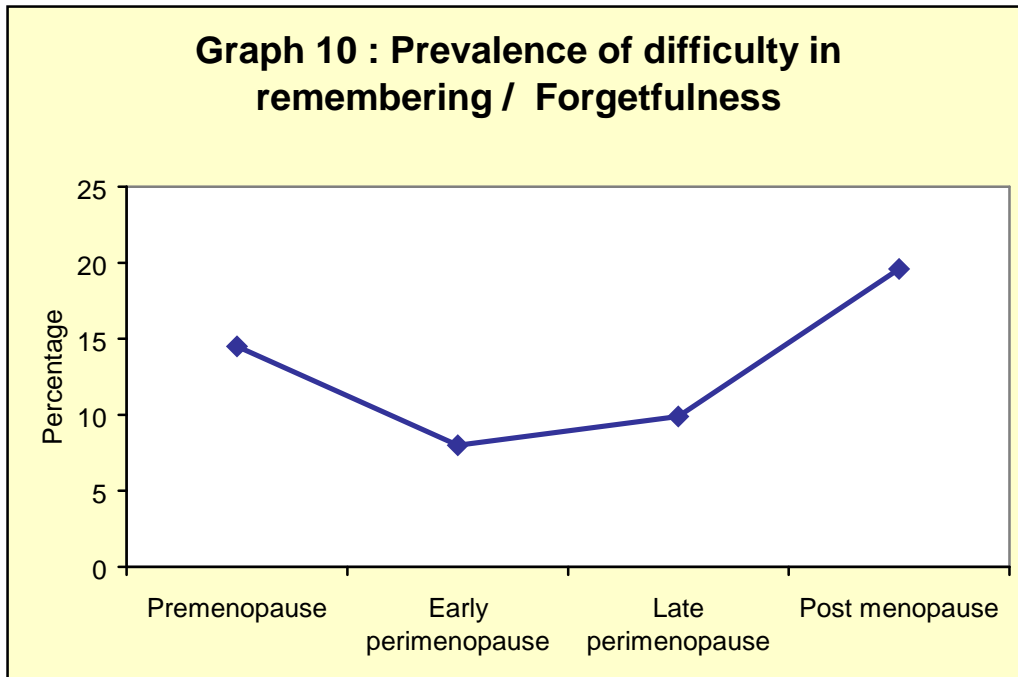
Comparison with other studies :

Table 8 : Prevalence of bone pain symptoms from selected longitudinal studies²⁶

Study	Study population	Measures	STRAW MT stage			
			Late repro	Early MT	Late MT	Post meno
Melbourne women's midlife health project ^{26,37,38}	172 women who had made a transition to perimenopause or post menopause reported on symptoms.	Aches or stiff joints over past 2 wks	41%	47%	53%	53%(1yr) 57%(2yr)
SWAN ^{26,33}	16,065 women aged 40 – 55 yr, participating in baseline survey.	Stiffness or soreness over past 2 wks	45.8%	57.9%	58.4%	54.8%
Present study	Women aged 40-55 years	Stiff joints and joint pains in the past 4 weeks	37.4%	38%	42.3%	51%

MT- menopausal transition, NA- Not available from published literature, SPEQ- Shortened personal experiences questionnaire, STRAW- staging and reproductive aging workshop, SWAN- Study of women's health across nation.

vi. Difficulty remembering/ forgetfulness:



In the present study an increase in the prevalence of forgetfulness was noted as women progressed to post menopausal stage.

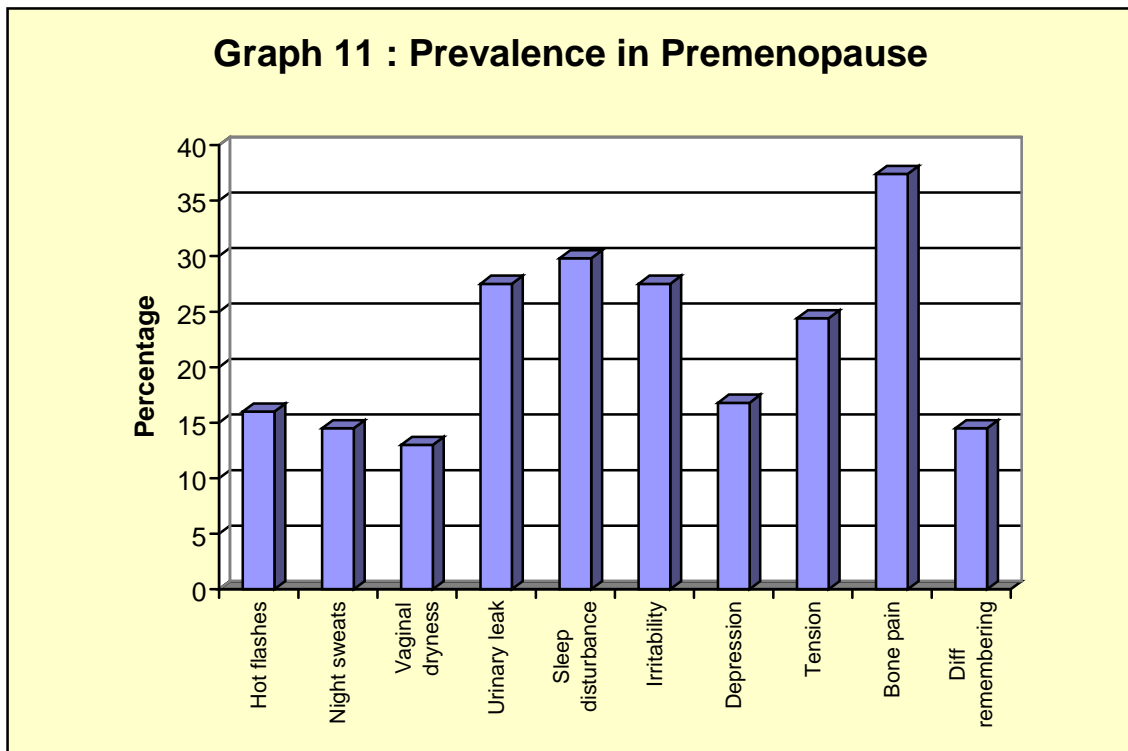
Comparison with other studies :
Table 9 : Prevalence of difficulty remembering ²⁶

Study	Study population	Measures	STRAW MT stage			
			Late repro	Early MT	Late MT	Post meno
SWAN ^{26,33}	16,065 women aged 40 – 55 yr, participating in baseline survey.	Forgetfulness over the past 2 wks measured on symptom check list	31.2%	44 %	44.8%	42 %
Present study	Women aged 40-55 years	Difficulty remembering in the past 4 weeks	14.5%	8%	9.9%	19.6%

MT- menopausal transition, NA- Not available from published literature, SPEQ- Shortened personal experiences questionnaire, STRAW- staging and reproductive aging workshop, SWAN- Study of women's health across nation.

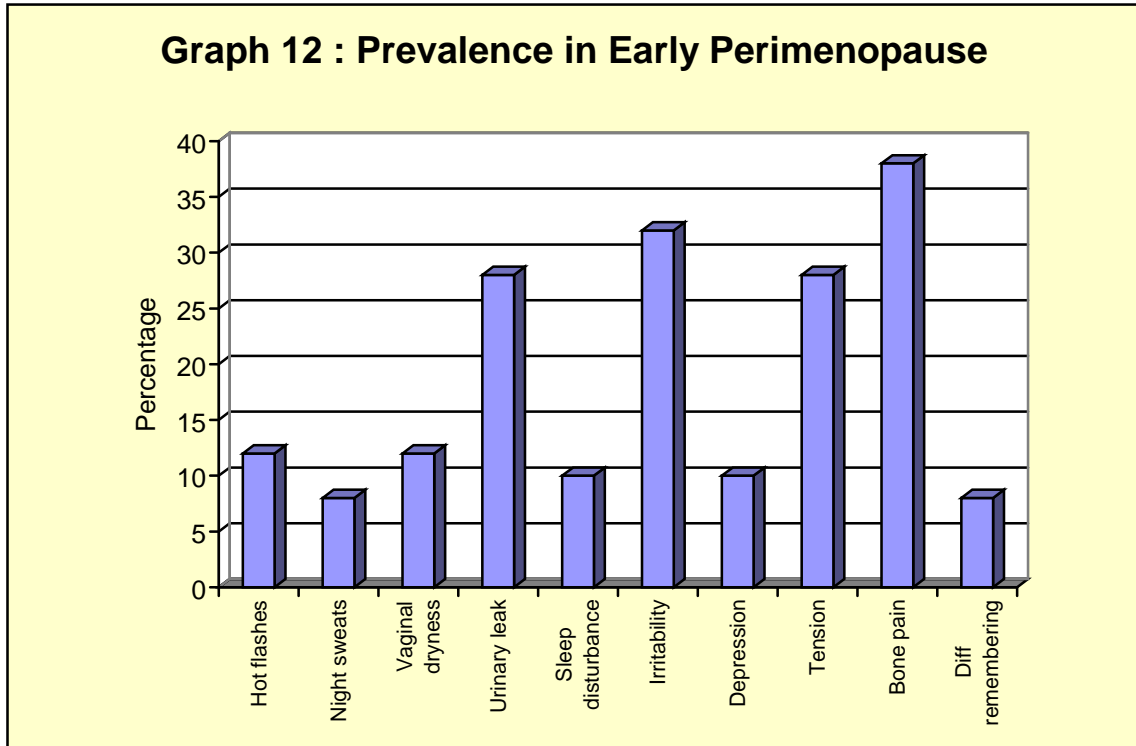
The prevalence of symptoms in each group is tabulated as follows:

I. Premenopause:



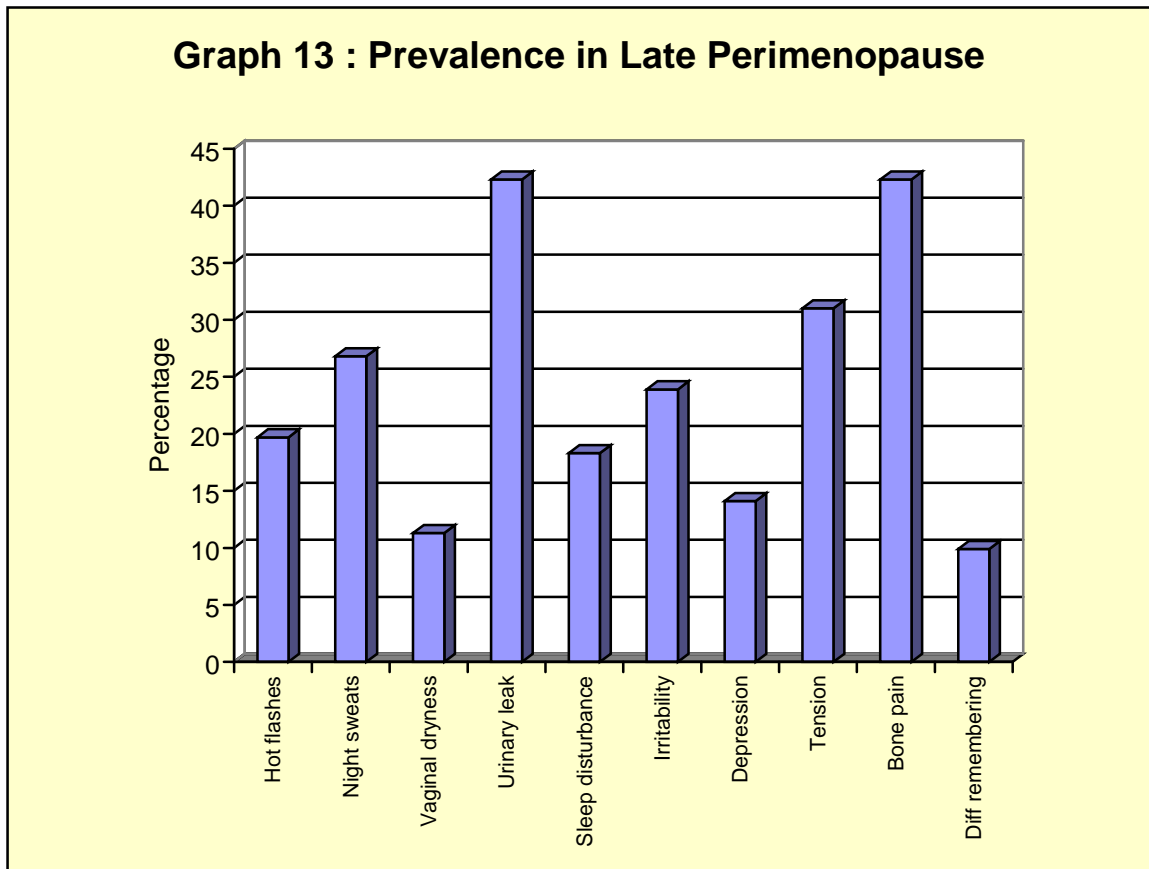
The following graph shows that in the premenopause the most prevalent symptom is bone pain, followed by sleep disturbance, irritability and urinary leakage.

II. Early perimenopause:



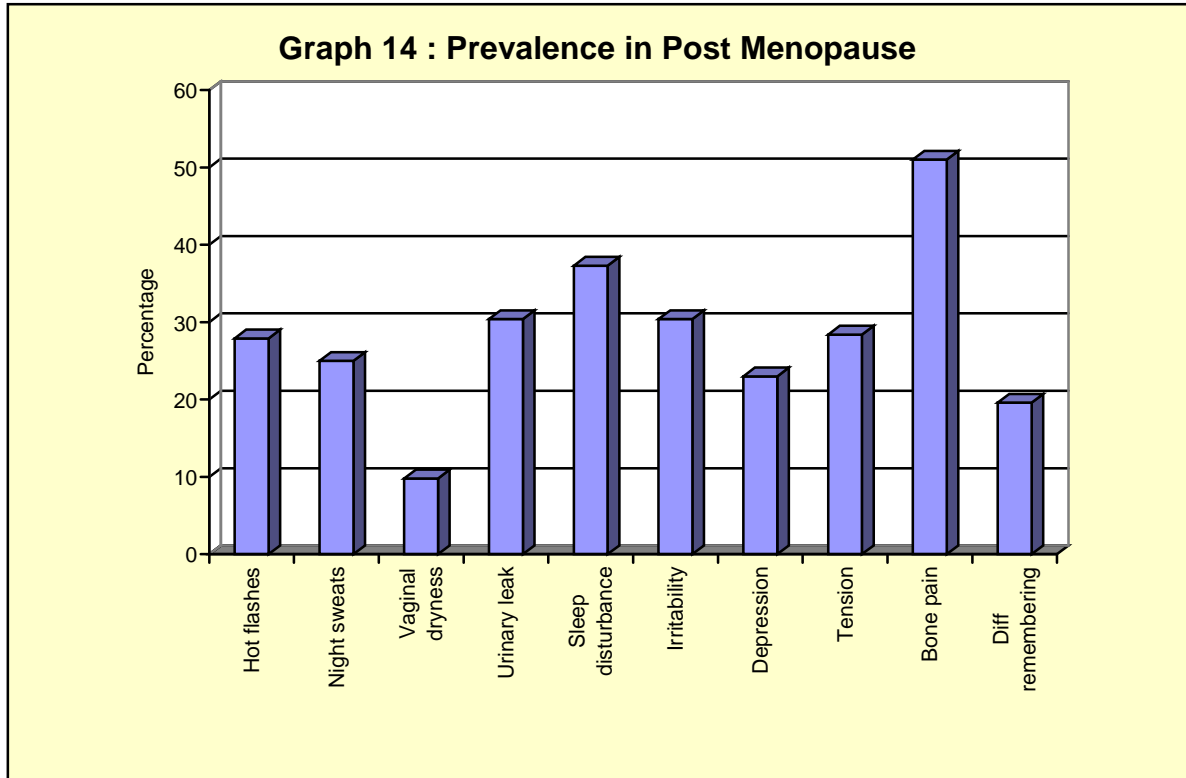
Again in early perimenopause the most prevalent symptom is bone pain, followed by irritability and urinary leakage.

III. Late perimenopause:



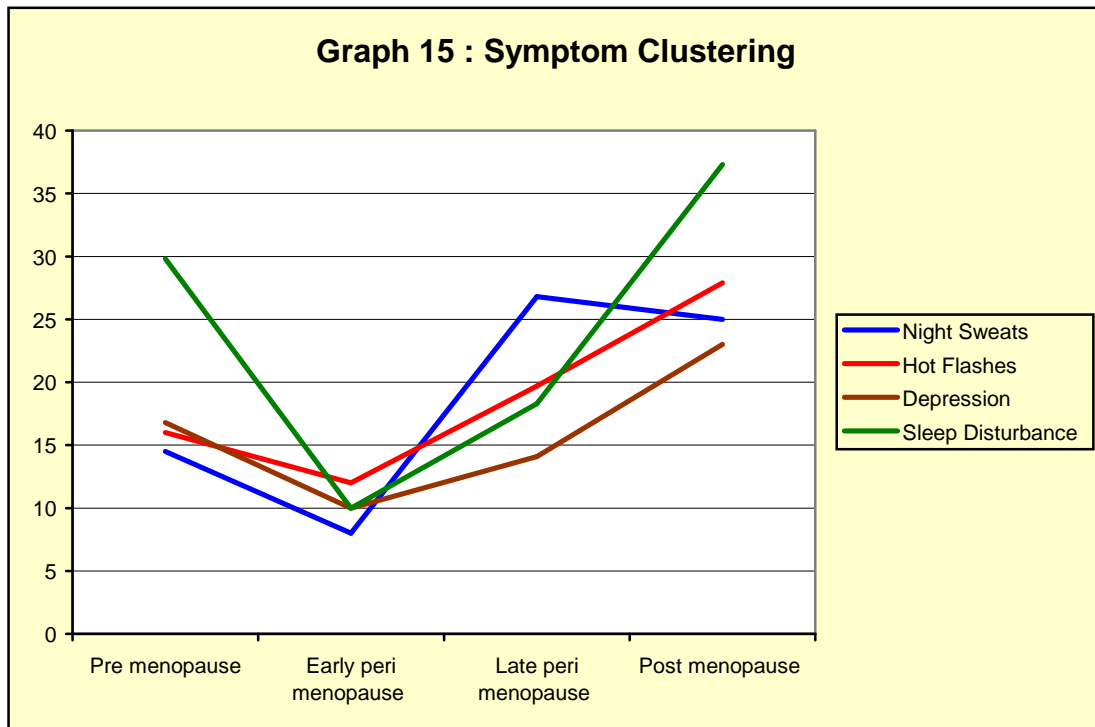
Again in the late perimenopause, joint stiffness and bone pains are the most common of the reported symptoms along with urinary leakage. There is also an increasing trend of reporting of hot flashes and night sweats in this stage.

IV. Post menopause:



Here again, we find bone pains to be the most commonly reported symptom. Sleep disturbance, urinary leakage, and irritability follow among the reported symptomatology.

Symptom Clustering :



Data from the present study shows that there is a definite symptom clustering between night sweats, hot flashes, depression and sleep disturbances. It is possible that hormonal changes lead to hot flashes and night sweats which in turn lead to sleep disturbances and depression. However, it has to be seen if sleep disturbances lead to depression or vice versa.

A study among 682 women aged between 45 to 55 years concluded that vasomotor, sexual functioning and sleep problems were most prevalent in post menopausal women and depressed mood was more prevalent in peri-menopausal and post menopausal women compared with premenopausal women. Also, in the present study depression increases through the period of transition from premenopause and peaks in the post menopausal period.²²

CONCLUSION

- The most prevalent symptom reported among all the stages of menopause is bone pain.
- The prevalence of vasomotor symptoms shows an increasing trend as women progress from premenopause through perimenopause and to post menopause.
- There is symptom clustering seen among vasomotor symptoms, depression and sleep disturbance and these increase during the late perimenopausal period.

SUMMARY

- Out of 475 women in the present study, 456 satisfied inclusion criteria. These women were divided into groups as per the proposed staging; 131 women were found to be in premenopause, 50 in early perimenopause, 71 in late peri-menopause and 204 in post menopause.
- In the present study, bone pain and stiffness in joints were the most prevalent symptoms among all the groups analysed. The prevalence of joint stiffness and pains increases from 37% in premenopause to 51% in the post menopausal period. Hence, early calcium and vitamin D supplementation, and weight-bearing exercises, are important and should be a fundamental part of any programme intended to prevent bone loss and treat osteoporosis.
- Vasomotor symptoms are more common in late peri-menopausal period and post menopausal period.
- In the present study, we have not evaluated with regard to time a woman stays in a particular stage of menopausal transition, this being a cross sectional study. Hence, there is a need for long-term longitudinal studies in this subject.

BIBLIOGRAPHY

1. Greendale GA, Lee NP, Arriola ER. The menopause. *Lancet* 1999; 353: 571-80.
2. Notelovitz M. Is routine use of estrogen indicated in post menopause? An opposing view. *J Fam Pract* 410-5
3. Editorial in “The tribune” Chandigarh, India, August 14, 2002. Menopause: a serious but surmountable challenge Meenal Kumar.
4. Nick Panay. “Menopause and the postmenopausal woman”. Chapter 47 in Seventh Edition Dewhurst’s Textbook Of Obstetrics & Gynaecology, D. Keith Edmonds, 2007; 479.
5. Sidhu S., Kaur A., Sidhu M. Age at menopause in educated women of Amritsar (Punjab). *J Hum Ecol.* 2005; 18 (1): 49 – 51.
6. Avis N.E, Brockwell S. and Colvin A. A universal menopausal syndrome. *Am J Med* 2005 ; 118 (12B) : 37S – 46 S.
7. Gupta P, Sturdee DW, Hunter MS. Mid age health in women from Indian subcontinent (MAHWIS): general health and the experience of menopause in women. *Climacteric* 2006 ; 9(1) : 13-22.
8. Chompootweep, S., Tankeyoon, M., Yamarat, K., Poomsuwan, P. and Dusitsin, N.: The menopause age and climacteric complaints in Thai women in Bangkok. *Maturitas* 1993 ; 17: 63-71.

9. Yahya, S. and Rehan, N. Age, pattern and symptoms of menopause among rural women of Lahore. *J. Ayub Med. Coll. Abbottabad* 2002; 14: 9-12.
10. McKinlay SM, Avis NE. A longitudinal analysis of women's attitudes towards menopause : results from Massachusetts. *Women's Health study. Maturitas* 1991 ; 13 : 65.
11. Brown WJ, Mishra GD, Dobson A. Changes in menopausal symptoms during the menopausal transition. *Int J Behav Med.* 2002; 9:53- 67.
12. Kaur S Walia I, Singh A. How menopause affects the lives of women in suburban Chandigarh, India. *Climacteric.* 2004 ;7(2):175-80.
13. Flint M. The menopause reward or punishment? *Psychosomatics* 1975; 6: 161-163.
14. Dennerstein L., Dudley EC., Hopper JL., Guthrie JR., Burger HG. A prospective population-based study of menopausal symptoms. *Obstet Gynecol* 2000; 96 : 351-358.
15. Greene J.G. The cross-sectional legacy an introduction to longitudinal studies of the climacteric. *Maturitas* 1992 ; 14 : 95-101.
16. Speroff Leon, Fritz Marc A., Ed. *Clinical Gynaecologic endocrinology and infertility* Lippincott Williams and Wilkins, Philadelphia, USA, 2005 ; 640.
17. Kronenberg F, Barnard RM. Modulation of menopausal hot flashes by ambient temperature. *J Therm Biolo* 1992; 17: 43.

18. Cailloutte JC, Sharp CF, Zimmerman GJ, Roy S. Vaginal pH as a marker for bacterial pathogens and menopausal status. *Am J Obs Gynecol* 1997; 176 : 1270.
19. Roy S, Cailloutte JC, Roy T, Faden JS. Vaginal pH is similar to FSH for menopausal diagnosis. *Am J Obs Gynecol* 2004 ; 190 : 1272.
20. Hannestad YS, Rotviet G, Sandvik H, Hunskaar S. A community based epidemiological survey of female urinary incontinence: the Norwegian EPINCONT study. *J Clin Epidemiol.* 2000 ; 53: 1150 – 1157.
21. Sampsel CM, Harlow SD, Skurnick J, Brubaker L, Bondarenko I. Urinary incontinence predictors and life impact in ethnically diverse peri menopausal women. *Obstet Gynecol* 2002; 100 : 1230 – 1238.
22. Hunter M, Battersby R, Whitehead M. Relationships between psychological symptoms, somatic symptoms, somatic complaints and menopausal status. *Maturitas* 1986; 8: 217- 228.
23. Soules Micheal R, Sherman Sherry, Parrott Estella, Reber Robert, Santoro Nanette, Utian Wulf, Woods Nancy. Executive summary: stages of reproductive aging workshop (STRAW). *Fertility and sterility* 2001; 76 (5) : 874 – 878
24. Anklesaria B S. Staging of menopause; *Gujarat Medical Journal* 1997 ; 54: 237- 240.
25. Burger HD, Dudley EC, Hooper JL. Prospectively measured levels of serum follicle stimulating hormone, estradiol, and dimeric inhibins during the menopausal transition in the population based cohort of women. *J Clini Endocrinol Metab* 1999; 84 : 4025- 30.

26. Woods N F, Mitchell E S symptoms during the peri menopause: Prevalence, severity, trajectory and significance in women's lives. *Am J Med* 2005; 118(12B):14S – 24S.
27. Mckinlay S M, Brambilla DJ, Posner J. The normal menopausal transition. *Maturitas*. 1992; 14: 103 - 115.
28. Dennerstein L, Dudley E, Hopper J. A prospective population based study of menopausal symptoms. *Obstet Gynecol* 2000 ; 96: 351 – 358.
29. SAME Dennerstein L, Dudley E, Hopper J. A prospective population based study of menopausal symptoms. *Obstetric Gynaecology* 2000 ; 96: 351 – 358.
30. Aksel S, Schomberg DW, Tyrey L, Hammond CB. Vasomotor symptoms, serum estrogens and gonadotropin levels in surgical menopause. *Am J Obstet Gynecol*, 1996: 126: 165.
31. Freedman RR. Physiology of hot flashes. *Am J Hum Biol* 2001 ; 13: 453.
32. Matthews KA, Wing RR, Kuller LH. Influences of natural menopause on psychological characteristics and symptoms of middle aged healthy women. *J Consult Clin Psychol*. 1990; 58: 345 - 351.
33. Gold EB, Sternfeld B, Kelsey JL. Relation of demographic and life style factors to symptoms in a multiracial ethnic population of women 40 – 55 yrs of age. *An J Epidemiol*. 2000; 152: 463 – 473.
34. Gold E, Block G, Crawford S. Life style and demographic factors in relation to vasomotor symptom: base line study from across the women's health across nation. *Am J Epidemiol*. 2004; 159: 1189 – 1199.

35. Freeman EW, Grisso JA, Berlin J. Symptom reports from a cohort of African American and white women in the late reproductive years. *Menopause* 2001; 8: 33 – 42.
36. Freeman E, Sammel M, Lin H, Gracia CR, Kapoor S, Ferdusi T. The role of anxiety and hormonal changes in menopausal hot flashes. *Menopause* 2005; 12 : 258 – 266.
37. Dennerstein L, Lehert P. Modeling mid- aged women’s sexual functioning: a prospective population based study. *J Sex Marital Ther.* 2004; 30: 173- 183.
38. Dennerstein L., Randolph J, Taffle J, Dudley E, Burger H. Hormones, mood, sexuality, and the menopausal transition. *Fertil Steril* 2002; 779(supp 4): S42- S48.
39. Matthews KA, Wing RR, Kuller LH. Influences of natural menopause on psychological characteristics and symptoms of middle aged healthy women. *J Consult Clin Psychol.* 1990; 58: 345- 351.
40. Bromberger J, Harlow S, Avis N. Racial / ethnic differences in the prevalence of depressive symptoms among middle aged women: The study of women’s health across nation (SWAN) *Am J Public Health* 2004; 94: 1378 – 1385.
41. Bromberger J, Meyer P, Kravitz H. Psychological distress and natural menopause: a multi ethnic community study. *Am J Public Health.* 2001; 92: 1435 – 1442.
42. Freeman EW, Sammel MD, Liu L. Hormones and menopausal status as predictors of depression in women in transition to menopause. *Arch Gen psychiatry.* 2004; 61: 62- 70.
43. Kravitz J, Ganz P, Bromberger J. Sleep difficulty in women at midlife: a community survey of sleep and the MT. *Menopause* 2003; 10 : 19 – 28.

CONSENT FORM

The principal investigator of the study is Dr J.C Shrivage and the co-investigator is Dr. Shriram M Ayyar from Department of Obstetrics and Gynecology.

Procedure – Not applicable.

Benefits : This study is intended to find predominance of symptoms menopause during the various stages of menopausal transition in an Indian set up so that better counseling and treatment could be provided

Risks: None

Alternatives : Not applicable

Privacy and Confidentiality:

All information collected about the subject during the course of this study will be kept confidential to the extent, permitted by law. Subject will be identified in the research records by code no.

Institutional / sponsors policy : does not apply to this research.

Financial Incentives for participation : I will not be charged any amount for the investigations. I will not receive any reimbursement for taking part in this study.

Authorization to publish results : Information of the study may be published but subject's identity will be kept confidential in the same.

Consent statement : I voluntarily give consent to carry out the study by signing on the line below. My signature /left thumb impression below indicates that I have read information in the consent form including the benefits and the risks and have cleared all my doubts.

Signature or left thumb print of participant or legally authorized representative

Name of the patient: Signature of the patient/legally authorized
Representative

Experimenter's name: Experimenter's signature

Witness name: Witness signature

Date:

In case of any queries, you can contact: PG student Dr. Shriraam Ayyar

Dr. V. D. Patil	Dr. J. C Shrivage	Dr. Shriraam M Ayyar
Chairman.	Professor,	Post Graduate
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Dissertation &	J. N. Medical College,	J. N. Medical College,
Research	Belgaum,	Belgaum,
	Ph. 0831-2460898.	

PROFORMA

Sr no. (To be allotted by interviewer) plz. Tick mark which ever applicable.

Name: _____

Date of Birth: _____ Age: _____ Weight: _____ Height: _____

Complete postal Address: _____

Married / Unmarried / Divorced _____

Nuclear Family:

Joint Family:

Telephone no. _____ Email Id (If any): _____

Education: _____ Profession: _____

Menstrual History: (Please mark which ever applicable)



1. Are you menstruating?

Yes	No

2. If yes, how were your periods in the last 3 months?

Regular	Irregular

3. If no, when did you have your last menses?

3 months back	6 months back	> 12 months

4. Are/ were you on hormone replacement therapy (HRT) in the past 3 months?

Yes	No

5. Did you receive any radio-therapy or chemo-therapy in the past?

Yes	No

6. If yes, for what condition?

7. Have you been treated medically for any gynecological problem? If yes with

GnRH	Hormones	Danazol.

Mention Yes/No.

In the past One month-

1. Did you have hot-flashes?

Yes	No

2. Did you have night sweats?

Yes	No

3. Did you have increased vaginal dryness, vaginal pain or itching?

Yes	No

4. Are you having trouble controlling urine?
Do you spill urine when you cough or sneeze?

Yes	No

5. Are you having difficulty sleeping or staying asleep?

Yes	No

6. Are you irritated over small matters?

Yes	No

7. Are you depressed? Are you feeling lonely, withdrawn or hopelessness?

Yes	No

8. Are you feeling increasing nervousness over small matters?

Yes	No

9. Are you having muscular or bony aches and pains?

Yes	No

10. Do you have difficulty in remembering things such as names, words or places?

Yes	No

This study is being performed under the able guidance of Dr. J.C.Shravage by Dr. Shriraam M Ayyar. In case you do have any queries or for examination purposes feel free to contact.OBG,OPD No-10, KLE Hospital, Belgaum,OPD Hours-9am to 11am Monday-Friday.Tel – 0831-2473777 Ext- 1380,

OR Dr. J.C. Shravage – Mob- 9448305362 (by appointment only)

OR Dr. Shriraam M Ayyar (P.G. Student) – 9886892685

Plz help to treat women better and to care for a better future. Thanking you for your valuable time.

“ उत्तम आरोग्य हीच खरी संपत्ती ”

क्र.

नांव : _____

जन्म तारीख : _____ वय : _____ वजन : _____ ऊंची : _____

पूर्ण पत्ता : _____

एकत्र कुटुंब :	विभक्त कुटुंब :
----------------	-----------------

फोन नं : _____ E-mail : _____

शिक्षण : _____ व्यवसाय / काम _____

पुढील प्रश्नांच्या उत्तरांना मार्क करा

प्र. १ तुमची मासिक पाळी चालू आहे का?

हो	नाही

प्र. २ जर उत्तर हो असल्यास, गेली तीन मासिक पाळी कशी होती ?

नियमित	अनियमित

प्र. ३ जर पहिल्या प्रश्नाचे उत्तर नाही असल्यास, तुमची शेवटची पाळी केव्हा आली होती ?

३ महिन्या पूर्वी	६ महिन्यापूर्वी	१२ महिन्यापूर्वी

प्र. ४ आपण हार्मोन रिप्लेसमेंटच्या गोळ्या घेता/घेत होता का?

हो	नाही

प्र. ५ आपण रेडिओथेरपी/कीमोथेरपी (Radiotherapy / Chemotherapy) घेतली होती का ?

हो	नाही

प्र. ६ आपण स्त्रीरोग तज्ञांकडून काही उपचार घेतलात का ? केव्हा व कोणते ?

प्र. ७ आपली काही शस्त्रक्रिया झाली आहे का ? केव्हा व कोणती ?

प्र. ८ तुम्हाला मधेच गरम गरम होते का ?	हो	नाही
प्र. ९ तुम्हाला रात्री घाम फार येतो का ?	हो	नाही
प्र. १० तुम्हाला योनीमार्गात वेदना, खाज, शुष्कता (सूकेपणा) जाणवतो का ?	हो	नाही
प्र. ११ तुमच्या लघवीवर पूर्ण ताबा आहे का ? हो/नाही खोकल्यावर लघवी आपोआप होते का? हो/नाही	हो	नाही
प्र. १२ तुम्हाला रात्री झोप चांगली येते का?	हो	नाही
प्र. १३ तुम्हाला क्षुल्लक कारणावरून मनस्ताप होतो का?	हो	नाही
प्र. १४ तुम्हाला भावनात्मक बदल, कंटाळा, असहाय्यता एकटेपणा वाटतो का ?	हो	नाही
प्र. १५ तुम्ही क्षुल्लक कारणावर नाराज होता का?	हो	नाही
प्र. १६ तुम्हाला हाडदुखी व सांधेदुखी आहे का?	हो	नाही
प्र. १७ तुमची स्मरण शक्ती कमी झाली, असे वाटते का ? उदा : आपणास नाव व गावे आठवण्यांस त्रास होतो का?	हो	नाही

हा अड्यास डॉ. सौ. ज्योत्सना श्रावणे यांच्या मार्गदर्शनाखाली व डॉ. श्रीराम यांच्या सहाय्याने होत आहे.

काही प्रश्न असल्यास ; स्त्रीरोग विभाग, के. एल्. ई. सोसायटीचे प्रभाकर कोरे हॉस्पिटल

ओपीडी क्र. १० सकाळी ९.०० ते ११.०० वाजेपर्यंत संपर्क साधावा

दूरध्वनी : ०८३१ - २४७३७७७ एक्सचेंज १३८०

किंवा

श्रावणे हॉस्पिटल, काकतीवेस नहरी, ब्रेलगाव येथे संपर्क साधावा.

क्लिनिक : ०८३१ - २४६०८९८ मो. : ९४४८३ ०५३६२ धल्यवाड.

डॉ. श्रीराम मो. : ९८८६८ ९२६८५

कृपया इथे
सही करा

Key to Master Chart

EDU	Education	[1 = Uneducated;	2 = Educated]
GR	Group	[1 = Premenopause ;	2 = Early perimenopause]
		[3 = Late perimenopause	4 = Post menopause]
HT.	Height		
J/N	Joint / Nuclear		
OCC	Occupation		
S. N.	Serial Number		
WT.	Weight		

Introduction

Objectives

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Conclusion

Summary

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Annexures

Master Chart

CROSS TABULATION

Q.No.1	Hot Flashes			
	Yes	No	Total	Percentage
Pre menopause	21	110	131	16.0
Early peri menopause	6	44	50	12.0
Late peri menopause	14	57	71	19.7
Post menopause	57	147	204	27.9
Total	98	358	456	21.5

Q.No.2	Night Sweats			
	Yes	No	Total	Percentage
Pre menopause	19	112	131	14.5
Early peri menopause	4	46	50	8.0
Late peri menopause	19	52	71	26.8
Post menopause	51	153	204	25.0
Total	93	363	456	20.4

Q.No.3	Vaginal dryness			
	Yes	No	Total	Percentage
Pre menopause	17	114	131	13.0
Early peri menopause	6	44	50	12.0
Late peri menopause	8	63	71	11.3
Post menopause	20	184	204	9.8
Total	51	405	456	11.2

Q.No.4	Urinary Leakage			
	Yes	No	Total	Percentage
Pre menopause	36	95	131	27.5
Early peri menopause	14	36	50	28.0
Late peri menopause	30	41	71	42.3
Post menopause	62	142	204	30.4
Total	142	314	456	31.1

Q.No.5	Difficulty sleeping			
	Yes	No	Total	Percentage
Pre menopause	39	92	131	29.8
Early peri menopause	5	45	50	10.0
Late peri menopause	13	58	71	18.3
Post menopause	76	128	204	37.3
Total	133	323	456	29.2

Q.No.6	Irritability			
	Yes	No	Total	Percentage
Pre menopause	36	95	131	27.5
Early peri menopause	16	34	50	32.0
Late peri menopause	17	54	71	23.9
Post menopause	62	142	204	30.4
Total	131	325	456	28.7

Q.No.7	Depression			
	Yes	No	Total	Percentage
Pre menopause	22	109	131	16.8
Early peri menopause	5	45	50	10.0
Late peri menopause	10	61	71	14.1
Post menopause	47	157	204	23.0
Total	84	372	456	18.4

Q.No.8	Tense/ nervousness			
	Yes	No	Total	Percentage
Pre menopause	32	99	131	24.4
Early peri menopause	14	36	50	28.0
Late peri menopause	22	49	71	31.0
Post menopause	58	146	204	28.4
Total	126	330	456	27.6

Q.No.9	Bone/ muscle pains			
	Yes	No	Total	Percentage
Pre menopause	49	82	131	37.4
Early peri menopause	19	31	50	38.0
Late peri menopause	30	41	71	42.3
Post menopause	104	100	204	51.0
Total	202	254	456	44.3

Q.No.10	Difficulty remembering			
	Yes	No	Total	Percentage
Pre menopause	19	112	131	14.5
Early peri menopause	4	46	50	8.0
Late peri menopause	7	64	71	9.9
Post menopause	40	164	204	19.6
Total	70	386	456	15.4

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweets	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
49	45	54	150	2	1	1	4	No	No	No	No	No	No	No	No	Yes	No
50	50	46	155	1	1	1	4	No	No	No	No	No	No	No	No	No	No
51	40	54	150	1	2	2	1	No	No	No	No	No	No	No	No	No	No
52	55	44	159	1	1	2	4	Yes	No	No	No	No	No	Yes	No	No	No
53	40	45	159	2	1	2	2	Yes	Yes	No	No	No	No	No	No	Yes	No
54	50	33	152	1	1	2	4	No	No	No	No	No	No	No	No	Yes	No
55	55	41	155	2	1	1	4	No	No	No	No	No	No	No	No	No	No
56	40	44	150	2	1	2	1	No	No	No	No	No	No	No	No	No	No
57	50	60	160	2	1	1	4	No	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes
58	45	45	152	2	1	2	4	No	No	No	No	No	No	No	No	No	No
59	40	46	150	2	2	2	1	No	No	No	No	No	No	No	No	No	No
60	54	42	140	1	1	1	4	No	Yes	No	No	No	No	No	No	Yes	No
61	40	45	159	1	1	2	1	No	No	No	No	No	No	No	No	Yes	No
62	40	60	150	1	2	1	1	No	No	No	No	No	No	No	No	Yes	No
63	54	45	159	1	1	1	4	No	No	No	Yes	No	No	No	No	No	No
64	50	33	152	2	1	1	4	No	No	No	No	No	No	No	No	No	No
65	42	48	150	1	1	1	3	No	No	No	No	No	No	No	No	No	No
66	45	50	152	1	1	1	1	No	No	No	No	No	No	No	No	No	No
67	55	46	140	1	1	2	4	No	No	No	No	No	No	No	No	No	No
68	42	50	148	2	2	1	1	No	No	No	No	No	No	No	No	Yes	No
69	45	54	143	1	1	1	2	No	No	No	No	No	Yes	Yes	Yes	Yes	No
70	55	70	154	1	2	2	4	No	No	No	No	No	No	No	No	Yes	No
71	55	46	140	2	2	1	4	No	No	No	No	No	Yes	No	No	Yes	Yes
72	50	43	128	1	1	1	4	No	No	No	No	No	No	Yes	No	No	No
73	50	35	124	1	1	1	4	No	No	No	No	No	No	No	No	No	No
74	45	43	153	1	2	2	4	No	No	No	No	No	No	No	No	Yes	No
75	54	60	162	2	2	1	4	No	No	No	Yes	Yes	No	No	Yes	Yes	No
76	40	45	156	2	2	1	4	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
77	45	34	148	2	1	1	1	Yes	Yes	No	No	No	No	No	Yes	Yes	No
78	41	56	145	2	1	1	1	No	No	No	No	No	No	No	No	No	No
79	40	50	146	1	2	2	1	No	No	No	No	No	No	No	No	Yes	No
80	55	52	156	2	2	1	4	No	No	No	No	No	No	No	No	Yes	No
81	45	52	157	2	1	1	4	No	No	No	Yes	Yes	Yes	Yes	No	Yes	No
82	42	44	150	2	1	1	4	No	No	No	No	Yes	No	Yes	Yes	No	No
83	50	39	160	2	1	1	1	Yes	Yes	No	No	No	No	No	No	No	No
84	40	54	156	2	1	2	1	No	No	No	No	No	No	No	No	No	No
85	50	42	154	1	1	1	4	No	No	No	No	No	No	No	No	No	No
86	40	40	150	1	1	2	1	No	No	No	No	No	No	No	No	No	No
87	55	35	158	1	2	1	4	No	No	No	No	No	No	No	No	No	No
88	45	45	155	1	1	1	4	No	No	No	No	No	No	No	No	No	No
89	50	42	160	1	1	1	4	No	No	No	No	No	No	No	No	No	No
90	50	40	154	2	2	1	4	No	No	No	No	No	No	No	No	No	No
91	55	55	167	2	1	2	4	No	No	No	No	No	No	No	No	No	No
92	50	50	151	2	1	1	4	No	No	No	No	No	No	No	No	No	No
93	54	53	150	1	1	1	4	No	No	No	No	No	No	No	No	Yes	No
94	42	47	155	2	1	2	1	No	No	No	No	Yes	Yes	No	No	No	No
95	52	38	145	1	1	1	4	No	No	No	No	No	No	No	No	No	No
96	45	40	160	1	1	1	4	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweats	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
97	40	50	160	1	1	1	1	No	No	No	No	No	Yes	No	Yes	Yes	No
98	43	65	154	1	1	2	1	No	No	No	No	No	No	No	No	No	No
99	40	39	150	2	1	1	1	No	No	No	No	No	No	No	No	No	No
100	41	40	156	1	1	1	1	No	No	No	No	No	No	No	No	No	No
101	55	53	152	1	2	1	1	No	No	No	No	No	No	No	No	No	No
102	45	45	162	1	1	1	1	No	No	No	No	No	No	No	No	No	No
103	40	36	145	3	2	2	2	No	No	No	No	No	No	No	No	Yes	No
104	50	46	155	1	2	1	2	No	No	No	No	No	No	No	No	Yes	No
105	42	45	152	1	1	2	4	No	No	No	No	Yes	No	No	No	Yes	No
106	40	38	148	1	2	1	1	Yes	Yes	No	No	No	No	No	No	Yes	No
107	54	44	150	3	1	1	4	No	No	No	No	No	No	No	No	No	No
108	50	68	150	1	2	2	3	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
109	46	60	155	2	2	2	1	No	No	No	No	No	No	No	No	No	Yes
110	54	57	163	2	1	2	1	No	No	Yes	No	No	Yes	Yes	Yes	No	No
111	54	62	162	1	2	2	4	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
112	54	60	150	1	2	2	4	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
113	54	70	165	1	1	2	4	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Yes
114	54	56	160	1	2	2	4	Yes	No	No	No	Yes	Yes	No	Yes	Yes	No
115	55	61	162	2	1	2	3	Yes	Yes	No	No	No	Yes	No	No	Yes	No
116	45	68	110	1	2	2	3	No	No	No	No	No	No	No	No	Yes	No
117	50	50	154	3	1	1	4	No	No	No	No	No	No	No	No	No	No
118	40	45	160	3	2	1	1	No	No	No	No	No	No	No	No	No	No
119	55	38	145	3	2	1	4	No	No	No	No	No	No	No	No	No	No
120	52	48	153	2	1	2	4	No	No	No	No	No	Yes	No	No	Yes	No
121	55	50	155	1	1	1	4	No	No	No	No	No	No	No	No	No	No
122	55	53	152	1	1	1	4	No	No	No	No	No	No	No	No	No	No
123	53	50	155	1	2	2	4	No	No	No	No	No	No	No	No	No	No
124	42	45	155	3	2	2	1	No	No	No	No	No	No	No	No	No	No
125	40	60	145	3	2	1	1	No	No	No	No	No	No	No	No	No	No
126	55	40	160	1	1	1	4	No	No	No	No	No	No	No	No	No	No
127	41	50	147	2	2	2	1	No	No	No	No	No	No	No	No	No	No
128	40	50	154	3	2	1	1	No	No	No	No	No	No	No	No	No	No
129	54	56	153	1	2	1	4	No	No	No	No	No	No	No	No	No	No
130	40	45	151	3	1	2	1	Yes	No	No	Yes	No	No	No	Yes	No	No
131	52	50	159	1	1	2	4	No	No	No	No	No	No	No	No	No	No
132	51	60	158	1	1	2	4	No	No	No	No	No	No	No	No	No	No
133	54	61	140	2	1	2	4	No	No	No	No	No	No	No	No	No	No
134	40	59	160	1	1	1	1	No	No	No	No	No	No	No	No	No	No
135	45	30	145	3	1	2	4	No	No	No	No	No	Yes	Yes	Yes	No	Yes
136	40	40	145	3	1	1	1	No	No	No	No	No	No	No	No	No	No
137	55	62	138	1	1	2	4	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No
138	55	65	142	2	1	2	4	No	No	No	No	No	No	No	No	No	No
139	44	62	148	1	2	2	1	No	No	No	No	Yes	No	No	No	Yes	Yes
140	43	56	142	1	1	2	1	No	No	No	No	Yes	Yes	Yes	No	Yes	No
141	42	58	146	1	2	2	2	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
142	40	38	138	3	1	1	1	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No
143	42	55	142	2	1	2	1	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes
144	45	32	138	3	1	1	3	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweets	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
193	45	41	140	2	2	2	4	No	No	No	Yes	No	No	No	No	No	No
194	50	38	130	2	1	2	3	No	No	No	Yes	No	No	No	No	No	No
195	42	45	138	2	2	1	2	No	No	No	Yes	No	No	No	No	No	No
196	45	46	142	2	1	2	4	No	No	No	No	No	No	No	Yes	Yes	No
197	47	57	158	2	2	2	3	No	No	No	No	No	No	No	No	No	No
198	48	50	144	2	1	2	3	No	No	No	No	Yes	No	No	No	No	No
199	50	48	138	1	2	1	4	No	No	No	No	No	No	No	No	No	No
200	42	40	140	2	2	2	3	No	No	No	No	No	Yes	No	Yes	No	No
201	45	47	142	1	1	2	1	No	No	No	No	No	No	No	No	No	No
202	50	38	132	1	1	2	1	Yes	No	No	No	No	Yes	No	Yes	No	No
203	55	48	138	1	1	2	4	No	No	No	No	No	No	No	No	No	No
204	50	40	136	1	2	1	4	No	No	No	No	No	No	No	No	No	No
205	40	35	130	1	2	1	3	Yes	Yes	No	No	No	No	No	No	No	No
206	40	40	138	1	2	2	2	Yes	No	Yes	No	No	No	No	Yes	No	No
207	55	46	146	1	1	2	4	No	No	No	No	No	No	Yes	No	No	No
208	51	40	136	1	2	2	4	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
209	45	40	138	1	2	1	3	No	No	No	No	No	No	No	No	No	No
210	54	54	163	2	2	2	3	No	No	No	No	No	No	No	No	Yes	No
211	45	44	138	2	1	2	2	No	No	No	No	No	No	No	No	No	No
212	48	50	138	2	1	1	3	No	No	No	Yes	No	No	No	No	No	No
213	49	42	148	2	1	1	4	No	No	No	No	No	No	No	No	No	No
214	54	50	147	1	1	1	4	No	No	No	No	No	No	No	No	No	No
215	52	48	143	1	1	1	4	No	No	No	Yes	No	No	No	No	No	No
216	46	47	152	3	1	2	4	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
217	55	42	136	1	1	1	4	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes
218	50	48	163	1	1	2	4	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
219	52	48	152	2	1	2	4	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No
220	49	48	148	1	2	2	4	No	No	No	No	Yes	No	No	No	No	No
221	50	47	146	1	1	2	3	No	No	No	No	Yes	No	No	No	No	No
222	55	60	167	2	2	2	3	No	No	No	Yes	Yes	No	No	No	No	No
223	42	52	150	1	1	2	3	No	Yes	No	Yes	Yes	No	No	Yes	No	No
224	50	47	146	1	1	1	4	No	No	No	No	Yes	No	No	No	Yes	No
225	49	50	150	2	1	2	3	No	No	No	Yes	No	No	No	No	No	No
226	45	62	146	1	1	2	3	No	No	No	Yes	No	No	No	No	No	No
227	49	50	150	2	1	2	2	No	No	No	No	No	No	No	No	No	No
228	45	50	145	2	1	2	3	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
229	45	53	153	2	2	2	3	No	No	No	Yes	No	Yes	No	No	Yes	No
230	50	48	154	1	1	2	3	No	Yes	No	No	No	No	No	No	No	No
231	45	50	145	3	1	2	3	No	No	No	Yes	No	No	No	No	No	No
232	55	54	146	1	2	2	4	No	No	No	No	No	No	No	No	No	No
233	41	56	148	1	1	1	3	No	No	No	No	No	No	No	No	No	No
234	43	47	154	1	1	2	2	No	No	No	No	No	No	No	No	No	No
235	50	50	140	1	1	2	4	No	No	No	No	No	No	No	No	No	No
236	50	49	136	1	1	2	1	No	No	No	No	No	No	No	No	No	No
237	44	51	144	1	1	2	2	No	No	No	No	No	No	No	No	No	No
238	55	46	138	1	1	2	4	Yes	Yes	No	Yes	No	Yes	No	Yes	No	No
239	45	44	154	1	1	1	1	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
240	55	53	152	1	2	1	4	No	No	No	No	No	Yes	Yes	No	Yes	Yes

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweets	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
241	45	52	136	1	1	1	4	Yes	No	No	Yes	No	No	No	Yes	Yes	Yes
242	50	64	140	1	1	1	1	Yes	No	Yes	No	No	Yes	No	Yes	No	No
243	43	50	153	1	2	1	1	No	No	No	Yes	No	Yes	No	No	Yes	No
244	50	48	148	1	1	2	4	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No
245	50	50	140	1	1	2	4	No	No	No	Yes	No	No	No	No	Yes	No
246	52	48	137	1	1	1	4	No	No	No	Yes	No	No	No	No	No	No
247	50	50	140	1	1	2	4	No	No	No	Yes	No	No	No	No	Yes	No
248	50	48	148	1	1	2	4	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No
249	43	50	156	2	2	2	1	No	No	No	Yes	No	Yes	No	No	Yes	No
250	50	64	140	1	1	1	1	Yes	No	Yes	No	No	Yes	No	Yes	No	No
251	53	60	152	3	2	2	4	No	No	No	Yes	No	Yes	No	No	No	No
252	52	48	128	1	2	2	4	Yes	No	No	No	Yes	Yes	No	Yes	Yes	No
253	43	75	152	1	1	2	1	No	No	No	No	No	Yes	No	No	No	No
254	54	52	151	1	1	2	3	No	No	No	Yes	No	Yes	Yes	Yes	No	Yes
255	55	55	148	1	2	2	4	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
256	48	50	152	1	2	2	4	Yes	Yes	No	Yes	No	No	No	No	Yes	No
257	50	48	150	1	2	1	4	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No
258	50	55	151	1	1	2	4	No	No	No	Yes	No	No	No	No	Yes	Yes
259	44	45	152	1	1	1	1	No	No	No	Yes	No	No	No	No	Yes	Yes
260	46	70	152	1	2	2	1	No	No	No	Yes	No	No	No	No	Yes	Yes
261	50	52	152	1	2	2	2	No	No	No	Yes	No	No	No	No	Yes	Yes
262	50	55	154	1	1	2	3	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
263	54	50	156	1	1	2	3	No	No	No	Yes	No	No	No	No	Yes	Yes
264	53	55	152	1	1	2	3	No	Yes	No	Yes	No	No	No	No	No	No
265	45	54	150	1	1	1	4	No	No	No	Yes	Yes	No	No	No	No	Yes
266	52	55	151	2	1	2	1	No	No	No	Yes	No	No	No	No	Yes	Yes
267	55	45	151	1	1	1	4	No	No	No	Yes	Yes	No	No	No	Yes	Yes
268	54	60	152	1	2	2	4	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
269	54	65	154	1	1	1	4	No	No	No	Yes	No	Yes	No	Yes	Yes	No
270	48	55	153	1	1	1	4	No	No	No	Yes	No	No	No	No	Yes	Yes
271	45	50	152	1	2	2	1	No	No	No	Yes	No	No	No	No	Yes	No
272	53	58	151	3	1	2	4	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
273	48	60	151	1	1	1	4	No	Yes	No	Yes	No	No	No	No	No	Yes
274	46	50	152	1	1	1	1	No	No	No	Yes	No	No	No	No	Yes	No
275	41	35	151	2	1	2	1	No	No	No	Yes	Yes	No	No	No	No	Yes
276	48	48	151	1	1	2	1	No	No	No	Yes	No	No	No	No	No	Yes
277	44	30	150	1	1	1	1	No	No	No	Yes	No	No	No	No	Yes	Yes
278	55	48	151	1	1	1	4	Yes	Yes	No	Yes	No	No	No	No	Yes	Yes
279	41	54	158	1	1	1	1	No	No	No	No	Yes	No	No	No	Yes	No
280	48	42	145	3	1	1	1	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	No
281	40	46	151	3	1	1	1	No	Yes	No	No	No	No	No	Yes	Yes	No
282	50	57	154	4	2	2	3	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No
283	42	54	152	2	1	2	2	No	No	No	No	No	No	No	Yes	No	No
284	48	50	150	2	2	2	3	No	No	No	No	No	No	No	Yes	Yes	No
285	46	46	138	2	2	1	3	No	Yes	Yes	No	No	No	No	Yes	Yes	No
286	40	69	150	2	1	2	1	No	Yes	No	No	No	No	Yes	No	Yes	No
287	50	58	154	1	2	1	4	No	Yes	No	No	No	Yes	No	Yes	Yes	No
288	42	65	156	1	1	2	3	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweats	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
289	49	30	146	2	2	1	2	No	No	No	No	No	Yes	No	No	No	No
290	48	49	140	2	2	2	3	No	No	No	No	No	No	No	Yes	Yes	No
291	50	48	136	1	1	2	2	No	No	No	No	No	Yes	No	No	No	No
292	50	39	138	1	2	2	3	No	No	No	No	No	No	No	No	No	No
293	45	41	140	2	2	2	4	No	No	No	Yes	No	No	No	No	No	No
294	50	38	130	2	1	2	3	No	No	No	Yes	No	No	No	No	No	No
295	42	45	138	2	2	1	2	No	No	No	Yes	No	No	No	No	No	No
296	45	46	142	2	1	2	4	No	No	No	No	No	No	No	Yes	Yes	No
297	47	57	158	2	2	2	3	No	No	No	No	No	No	No	No	No	No
298	48	50	144	2	1	2	3	No	No	No	No	Yes	No	No	No	No	No
299	50	48	138	1	2	1	4	No	No	No	No	No	No	No	No	No	No
300	42	40	140	2	2	2	3	No	No	No	No	No	Yes	No	Yes	No	No
301	45	47	142	1	1	2	1	No	No	No	No	No	No	No	No	No	No
302	50	38	132	1	1	2	1	Yes	No	No	No	No	Yes	No	Yes	No	No
303	55	48	138	1	1	2	4	No	No	No	No	No	No	No	No	No	No
304	50	40	136	1	2	1	4	No	No	No	No	No	No	No	No	No	No
305	40	35	130	1	2	1	3	Yes	Yes	No	No	No	No	No	No	No	No
306	40	40	138	1	2	2	2	Yes	No	Yes	No	No	No	No	Yes	No	No
307	55	46	146	1	1	2	4	No	No	No	No	No	No	Yes	No	No	No
308	51	40	136	1	2	2	4	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
309	45	40	138	1	2	1	3	No	No	No	No	No	No	No	No	No	No
310	54	54	163	2	2	2	3	No	No	No	No	No	No	No	No	Yes	No
311	45	44	138	2	1	2	2	No	No	No	No	No	No	No	No	No	No
312	48	50	138	2	1	1	3	No	No	No	Yes	No	No	No	No	No	No
313	49	42	148	2	1	1	4	No	No	No	No	No	No	No	No	No	No
314	54	50	147	1	1	1	4	No	No	No	No	No	No	No	No	No	No
315	52	48	143	1	1	1	4	No	No	No	Yes	No	No	No	No	No	No
316	46	47	152	3	1	2	4	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
317	55	42	136	1	1	1	4	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes
318	50	48	163	1	1	2	4	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
319	52	48	152	2	1	2	4	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No
320	49	48	148	1	2	2	4	No	No	No	No	Yes	No	No	No	No	No
321	50	47	146	1	1	2	3	No	No	No	No	Yes	No	No	No	No	No
322	55	60	167	2	2	2	3	No	No	No	Yes	Yes	No	No	No	No	No
323	42	52	150	1	1	2	3	No	Yes	No	Yes	Yes	No	No	Yes	No	No
324	50	47	146	1	1	1	4	No	No	No	No	Yes	No	No	No	Yes	No
325	49	50	150	2	1	2	3	No	No	No	Yes	No	No	No	No	No	No
326	45	62	146	1	1	2	3	No	No	No	Yes	No	No	No	No	No	No
327	49	50	150	2	1	2	2	No	No	No	No	No	No	No	No	No	No
328	45	50	145	2	1	2	3	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
329	45	53	153	2	2	2	3	No	No	No	Yes	No	Yes	No	No	Yes	No
330	50	48	154	1	1	2	3	No	Yes	No	No	No	No	No	No	No	No
331	45	50	145	3	1	2	3	No	No	No	Yes	No	No	No	No	No	No
332	52	49	142	2	1	1	3	No	No	No	Yes	No	No	No	No	No	No
333	46	52	146	1	2	1	3	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No
334	43	53	132	3	1	1	4	Yes	No	No	Yes	No	No	No	No	Yes	No
335	50	54	142	3	1	2	4	No	No	No	No	No	No	No	No	Yes	No
336	42	48	134	2	1	2	3	No	No	No	No	No	No	No	Yes	Yes	No

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweets	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
337	46	48	142	1	1	2	3	No	No	No	Yes	No	No	No	No	No	No
338	50	49	138	1	1	2	3	No	No	No	Yes	No	No	No	No	Yes	No
339	47	38	132	2	1	2	1	No	No	No	No	No	Yes	No	Yes	Yes	No
340	48	54	130	2	1	2	1	No	Yes	No	No	No	No	No	Yes	No	No
341	46	54	132	2	1	2	1	No	No	No	No	No	No	No	Yes	No	No
342	52	40	138	2	1	2	2	No	No	No	No	No	Yes	No	No	Yes	No
343	48	54	142	2	2	2	3	No	No	No	No	No	No	No	No	Yes	No
344	46	40	137	2	1	2	1	No	No	No	Yes	No	No	No	No	No	Yes
345	42	42	143	2	1	1	1	No	No	No	Yes	No	No	No	No	No	No
346	48	60	148	2	1	2	1	No	Yes	No	Yes	No	Yes	No	No	Yes	No
347	54	47	137	2	2	2	3	Yes	Yes	No	Yes	No	Yes	No	No	Yes	No
348	54	50	146	2	2	2	4	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
349	43	64	146	2	1	2	1	No	Yes	No	No	No	No	No	No	No	No
350	55	52	138	2	1	2	3	No	No	No	Yes	No	No	No	No	No	No
351	47	50	143	2	1	2	2	No	No	No	No	No	No	No	No	Yes	No
352	46	48	152	2	1	2	1	No	No	No	No	No	No	No	No	Yes	No
353	48	54	138	2	2	2	1	No	No	No	No	No	No	No	No	Yes	No
354	45	53	154	2	1	2	1	No	No	Yes	Yes	No	No	No	Yes	No	No
355	45	53	146	2	1	2	2	No	No	No	No	No	No	No	No	No	No
356	42	54	154	2	1	2	2	No	No	No	No	No	No	No	No	No	No
357	45	48	151	2	1	2	2	No	No	No	No	No	No	No	No	No	No
358	44	52	150	2	1	2	2	No	No	No	No	No	No	No	No	No	No
359	40	49	148	2	1	2	2	No	No	No	No	No	No	No	No	No	No
360	45	54	153	2	1	2	2	No	No	No	No	No	No	No	No	No	No
361	49	55	157	2	1	2	2	No	No	No	No	No	No	No	No	Yes	No
362	42	60	154	2	1	2	2	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
363	40	48	154	2	1	2	2	No	No	No	No	No	No	No	No	No	No
364	45	50	144	2	2	2	4	No	No	No	No	No	No	No	No	No	No
365	40	53	146	2	1	2	2	No	No	No	No	No	No	No	No	No	No
366	40	42	146	2	1	2	2	No	No	No	No	No	No	No	No	No	No
367	49	50	151	2	1	2	2	No	No	No	Yes	No	No	No	No	Yes	No
368	42	50	146	1	1	1	2	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes	No
369	55	46	153	1	1	2	4	No	No	No	Yes	Yes	No	Yes	No	Yes	No
370	42	52	152	2	1	2	4	No	No	No	Yes	Yes	No	No	No	Yes	No
371	41	52	142	2	2	2	2	No	No	No	Yes	No	Yes	No	Yes	No	No
372	47	45	137	2	1	2	1	No	No	No	No	No	No	No	Yes	Yes	No
373	55	38	145	2	2	2	4	Yes	No	No	Yes	No	No	No	No	Yes	No
374	52	42	150	2	1	2	4	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
375	49	50	156	2	1	2	2	No	No	No	No	No	No	No	No	No	No
376	48	54	139	2	1	2	2	No	No	Yes	Yes	No	Yes	No	Yes	No	No
377	43	56	146	2	1	2	1	No	No	No	No	No	No	No	No	No	No
378	40	38	137	1	1	1	4	No	No	No	No	No	No	No	No	No	No
379	48	50	152	2	1	2	4	No	No	No	Yes	No	No	No	No	No	No
380	50	42	148	1	1	1	4	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No
381	40	50	153	2	1	2	1	No	No	No	No	No	No	No	No	No	No
382	49	55	150	1	2	1	1	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No
383	54	65	154	2	2	2	4	No	No	No	No	Yes	No	No	No	No	No
384	51	66	152	2	2	1	4	No	No	No	No	Yes	No	No	No	Yes	No

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweets	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
385	50	60	148	2	1	2	1	No	No	No	No	Yes	No	No	No	No	No
386	51	56	150	2	2	1	4	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	No
387	50	40	156	1	2	1	4	No	No	No	No	Yes	No	No	No	No	Yes
388	50	45	148	1	2	1	4	No	No	No	No	No	No	No	No	No	No
389	40	35	132	1	2	1	1	No	Yes	No	No	Yes	No	No	Yes	Yes	No
390	45	44	154	1	1	1	4	No	No	No	No	Yes	No	No	No	Yes	No
391	45	56	137	1	1	2	1	No	Yes	Yes	Yes	Yes	No	No	No	Yes	No
392	40	55	150	2	2	2	1	Yes	No	Yes	No	No	No	No	No	Yes	No
393	52	54	156	2	1	2	4	Yes	Yes	No	No	Yes	No	No	No	Yes	No
394	52	58	154	2	2	2	4	No	No	No	No	Yes	No	No	No	No	No
395	55	50	146	1	1	1	4	Yes	No	No	No	No	No	No	Yes	No	No
396	53	46	152	1	2	1	4	Yes	Yes	No	No	No	Yes	No	No	Yes	No
397	55	44	142	2	1	1	4	Yes	No	No	Yes	Yes	Yes	No	No	Yes	No
398	54	45	148	1	2	2	4	Yes	No	No	No	No	Yes	No	No	Yes	No
399	55	56	148	1	1	2	4	Yes	Yes	No	No	Yes	No	No	No	Yes	No
400	55	50	150	2	2	1	4	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes
401	44	50	148	2	1	2	4	Yes	No	Yes	No	No	No	No	No	Yes	No
402	50	52	148	2	1	1	3	No	No	No	No	No	Yes	No	No	Yes	No
403	45	40	150	1	1	1	4	No	No	No	Yes	Yes	No	No	No	Yes	No
404	40	48	157	1	1	2	4	No	No	No	No	Yes	No	No	No	No	No
405	55	54	158	2	1	1	4	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
406	42	48	148	1	1	1	4	No	No	Yes	Yes	Yes	No	No	No	No	No
407	46	58	156	1	1	1	4	No	Yes	No	Yes	Yes	Yes	No	No	Yes	No
408	44	60	158	2	1	2	4	Yes	No	No	Yes	Yes	Yes	No	No	Yes	No
409	50	56	152	1	1	1	4	Yes	Yes	No	Yes	No	No	No	No	Yes	No
410	41	50	154	1	1	1	4	No	Yes	No	Yes	No	Yes	No	No	Yes	No
411	55	48	148	1	1	1	4	No	Yes	No	Yes	Yes	No	No	No	Yes	No
412	45	52	152	1	1	1	4	Yes	Yes	No	Yes	Yes	No	No	No	Yes	No
413	42	50	150	1	1	1	1	No	No	No	No	No	Yes	No	No	Yes	No
414	40	41	130	1	1	1	1	No	No	No	No	No	No	Yes	Yes	Yes	No
415	52	40	134	1	1	2	4	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No
416	43	38	126	2	1	1	1	No	No	No	No	Yes	No	No	No	No	No
417	42	55	150	2	1	2	1	No	No	No	Yes	No	No	No	No	No	No
418	40	40	148	2	1	2	1	No	No	No	No	Yes	No	No	No	No	No
419	50	55	134	1	1	1	4	No	No	No	No	Yes	Yes	No	No	Yes	No
420	45	50	138	1	1	1	4	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No
421	50	45	152	1	1	2	4	No	No	No	No	Yes	No	No	Yes	No	No
422	49	52	148	3	2	1	4	No	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
423	53	45	146	1	1	2	4	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
424	55	48	150	1	1	2	4	Yes	No	No	No	No	Yes	Yes	Yes	No	No
425	45	50	146	1	1	1	4	No	No	No	No	Yes	Yes	No	Yes	No	No
426	46	47	148	1	1	2	3	Yes	No	No	No	Yes	No	No	No	No	No
427	50	40	150	1	1	2	4	No	No	No	No	Yes	No	No	No	No	No
428	50	68	156	1	1	1	1	Yes	Yes	No	No	Yes	Yes	No	No	No	No
429	45	56	148	1	2	2	1	No	No	No	Yes	Yes	No	Yes	Yes	No	No
430	48	62	158	2	1	2	1	No	No	No	No	Yes	No	No	No	No	No
431	45	58	149	1	2	2	1	No	No	No	No	Yes	No	No	No	No	No
432	45	56	153	2	2	2	1	No	No	No	No	Yes	No	No	No	No	No

S.N.	AGE	WT	HT	OCC	J/N	EDU	GR	Hot Flashes	Night Sweets	Vaginal dryness	Urinary leakage	Sleep	Irritability	Depression	Tension	Bone pain	Forgetfulness
433	48	50	148	1	1	2	1	No	No	No	No	Yes	No	No	No	No	No
434	55	51	158	1	2	2	4	No	No	No	No	Yes	No	No	No	No	No
435	50	45	154	1	1	2	4	No	No	No	No	Yes	No	No	No	No	No
436	50	64	127	1	1	1	4	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No
437	40	50	135	2	2	2	1	No	No	No	Yes	No	Yes	Yes	Yes	No	No
438	48	73	150	2	2	2	1	No	No	No	No	Yes	No	No	No	No	No
439	50	54	156	1	1	2	1	No	Yes	Yes	Yes	Yes	No	No	No	Yes	No
440	45	50	148	1	1	1	4	No	No	No	No	Yes	No	No	No	No	No
441	50	56	158	2	1	2	4	No	No	No	Yes	Yes	Yes	Yes	No	Yes	No
442	45	54	142	1	1	1	3	No	No	No	No	No	No	Yes	No	No	Yes
443	47	55	138	1	2	1	1	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No
444	55	57	150	1	1	2	4	No	No	No	No	Yes	No	No	No	No	No
445	45	55	146	2	1	1	1	No	No	No	No	Yes	Yes	Yes	No	Yes	No
446	42	48	144	2	2	2	1	No	No	No	No	Yes	No	No	No	No	No
447	45	65	140	2	1	2	1	No	No	No	No	Yes	No	No	No	No	No
448	45	70	180	1	2	1	1	No	No	No	No	Yes	No	No	No	No	No
449	46	56	154	2	2	1	4	Yes	Yes	No	Yes	No	No	No	No	Yes	No
450	45	57	150	2	1	2	4	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes
451	45	86	164	2	1	2	2	No	No	No	Yes	Yes	No	No	No	No	No
452	43	44	156	1	1	2	1	No	No	No	Yes	Yes	No	No	No	Yes	No
453	43	40	160	1	1	1	4	No	No	No	No	Yes	Yes	No	Yes	No	No
454	47	56	153	2	1	1	4	Yes	Yes	No	No	Yes	Yes	No	Yes	No	Yes
455	47	50	152	2	1	2	4	No	No	No	No	Yes	No	No	Yes	No	No
456	45	50	152	2	1	1	2	No	No	No	Yes	Yes	Yes	No	No	Yes	No