

**Spectrum clusters & Health related quality of life in Indian Menopausal Women**

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**Abstract**

**Objective:** To assess the prevalence of menopausal symptoms and clustering in a mixed population of women, To describe the relationship of menopausal symptoms with health-related quality of life of women, To identify different actions taken to alleviate menopausal symptoms.

**Material & Method:** Cross-sectional study was conducted among women aged 40 to 65 years living in urban and rural areas who have attended series of camps between 2016-2022 in Jaipur. The Information was collected on demographic, menstrual, personal and medical history and action taken for alleviating problems, using structured interviews. The Menopause Rating Scale was used to assess menopausal symptoms and severity of symptoms also recorded. The Short Form 36 health survey was used to assess the health-related quality of life.

**Results & Conclusion:** The mean age of peri menopausal women was 46.3 years and that of post-menopausal women was 50.8 years. 28% of perimenopausal women belong to rural area. 18.67% of post-menopausal belong to rural area. Overall, an increase in prevalence of symptoms from perimenopausal to post-menopausal category was observed and significantly high ( $< 0.0001$ ) for hot flushes, physical and mental exhaustion. There is significant difference between Rural and Urban women in terms of menopausal symptoms. Most prevalent cluster in urban women being Psychological while in Rural areas women do not report their symptoms frequently. Women with cluster of symptoms had significantly lower ( $P < 0.05$ ) quality-of-life scores in most of the domains of the Short Form 36 compared with women without symptoms.

**Keywords:** Health, Physical, Mental Exhaustion.

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**Introduction**

Women play an important role in reproductive capability on the earth but it is not permanent; it ends with menopause. Menopause is the common physiological change among middle-aged women around 45 to 55 years in world. Menopausal phase signifies the normal aging process that subjects women from the reproductive to the non-reproductive state.

Menopausal health demands priority in India due to extension in the life expectancy and growing population of menopausal women. It is defined as cessation of menstruation for 12 months after the final menstrual period.

In modern era, women have comparatively longer period i.e., almost one third of her life spend in menopause. After trevaserve into menopause period, women undergoes little difficulty and stress. The common symptoms are sleeping disorder, vasomotor, somatic and psychological symptoms which affects quality of life of women. Menopausal symptoms have major impact on the quality of life of menopausal women at different status of menopause.

Quality of life (QOL) has been defined by the WHO as “the individual perception of their position in life in the context of the cultural and value systems in which they live and in relation to their goals, expectation, standards and concerns.

Perception of menopausal symptoms is found to be different at various subcontinents and countries. India is a large country with great diversity (multi-cultural, multi-ethnic and multi religious), different bodily experiences, socio-economic problems and educational status. The physical and psychosomatic symptoms also varies amongst geographical areas. There are vast differences in access to health care in the urban and rural populations.

Estimated mean age of menopause is 46 years for India with an average female life expectancy of is 71 years, Thus increased longevity of post-menopausal women with health related problems decreases overall quality of life.

The poor QOL plays a significant role on public health care in developing countries like India among menopausal phase of women. The existing biomedical health-care model in developing nations focuses mainly on curative aspect, giving prime importance to treatment of medical symptoms to minimize the impact of those on the psychosocial transition in the menopausal period.

To date menopause symptomatology research data is centered mainly around identifying frequency & severity of single symptom, although a majority of women report multiple symptoms (cluster)

While it is true that various treatment modalities are available for menopausal symptoms, women in general compromise the health-seeking behaviour and silently suffer with symptoms which may invariably affect QOL. Nonetheless, there is scarcity of research that explores the impact of menopausal symptoms on health-related QOL among women in India.

Hence, this study was undertaken to explore the impact of menopausal symptoms on health-related QOL among women in a post-reproductive life span developmental period and its association with sociodemographic characteristics. The findings of this study may govern the attitude of health-care personnel to use community-based health-care interventions in improving the menopausal health-related QOL outcomes among women.

### **Objective**

1. To assess the prevalence of menopausal symptoms and clustering in a mixed population of women.
2. To describe the relationship of menopausal symptoms with health-related quality of life of women.
3. To identify different actions taken to alleviate menopausal symptoms.

### **Method**

This cross-sectional study was conducted at the state capital of Rajasthan which represents the North-Western part of India. 1200 random-sampled women, aged 40- 65 years, living in urban/rural areas and who attended series of camps (2017-2020) were included. The Information was collected on demographic, menstrual, personal and medical history and action taken for alleviating problems, using structured interviews. The Menopause Rating Scale was used to assess

menopausal symptoms and severity of symptoms also recorded. The Short Form 36 health survey was used to assess the health-related quality of life. Menopausal symptoms were categorized in three clusters as Psychological (Cluster - 1), Stomato- Vegetative (Cluster -2) & Uro-genital (Cluster -3). Statistical analysis done with MS Excel, Medcalc software, significance of observations was drawn with chi-square test.

**Menopause Rating Scale**

Symptom	Item	Main Symptoms	Description/definition of complaints
	1	Depression	Despondency, sadness tearfulness, lack of drive, mood fluctuations
	2	Irritability	Nervousness, unquiet, inner tension, overreacting
	3	Anxiety	Persistent, overpowering worry, anxiety and tension often without and apparent cause
	4	Exhaustion/ Impaired Performance	Susceptibility to physical and mental exhaustion, poor concentration, forgetfulness, lack of energy, tiredness, weakness, fatigue
	5	Hot flushes, sweating	Sensation of rising heat, outbreaks of sweating, or perspiration that might disrupt daily activity
	6	Cardiac symptoms	Palpitations, racing heartbeat, irregular beats, tightness in chest
	7	Sleep disorders	Difficulty in falling asleep, difficulty in remaining asleep during the night, waking up too early
	8	Joint and muscle complaints	Pain predominantly affecting the finger joints rheumatic symptoms, arthralgias / myalgias
	9	Vaginal dryness, itching	Feeling of dryness of the vagina, itching, pain during sexual intercourse, dyspareunia
	10	Urinary symptoms	Frequent need to pass urine, feeling of urgency, Incontinence
	11	Disorders of sexuality	Reduced libido, decreased sexual desire, arousal, activity, satisfaction.

### Menopause Rating Scale

Which of the following symptoms apply to you at this time? Please, mark the appropriate box for each symptom. For symptoms that do not apply, please mark 'none'.

Symptoms:	none	mild	moderate	severe	very severe
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Score =	0	1	2	3	4
1. Hot flushes, sweating (episodes of sweating).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Heart discomfort (unusual awareness of heart beat, heart skipping, heart racing, tightness).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Sleep problems (difficulty in falling asleep, difficulty in sleeping through, waking up early).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Depressive mood (feeling down, sad, on the verge of tears, lack of drive, mood swings).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Irritability (feeling nervous, inner tension, feeling aggressive).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Anxiety (inner restlessness, feeling panicky).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Physical and mental exhaustion (general decrease in performance, impaired memory, decrease in concentration, forgetfulness).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Sexual problems (change in sexual desire, in sexual activity and satisfaction).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Joint and muscular discomfort (pain in the joints, rheumatoid complaints).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Results

Total number of women studied was 1200. The number of women in peri menopausal age group were 300 whereas 900 women were in post-menopausal age group. The socio demographic characteristics of peri and post-menopausal women is outlined in Table 1. The mean age of peri menopausal women was 46.3 years and that of post-menopausal women was 50.8 years. 28% of peri-menopausal women belong to rural area. 18.67% of post-menopausal belong to rural area.

Table 1

Socio - Demographic Characteristics N=1200		
Characteristics	Perimenopausal	Postmenopausal
Total No.	300	900
Age, mean $\pm$ SD (Yrs.)	46.3 $\pm$ 2.8	50.8 $\pm$ 8.9
Residential area		
Rural	84 (28%)	168 (18.67%)
Urban	216 (72%)	732 (81.33%)
Marital Status n (%)		
Married	261 (87%)	756 (84%)
Widow	24 (8%)	135 (15%)
Single / Separated	15 (5%)	9(1%)
Education level n (%)		
Literate	138 (46%)	369 (41%)
Till Std V	69 (23%)	99(11%)
Illiterate	93 (31%)	432(48%)
Life Style (%)		
Sedentary / Household work / sitting job	252 (84%)	837 (93%)
Field work / Exercise > 5 hrs. / day	48 (16%)	63 (7%)

Prevalence of symptoms of menopause as experienced by women is tabulated and shown in Table 2.

Overall an increase in prevalence of symptoms from perimenopausal to post-menopausal category was observed and significantly high ( $< 0.0001$ ) for hot flushes, physical and mental exhaustion.

Table 2

Symptom	Perimenopausal (N = 300)	Postmenopausal (N = 900)	Peri. v/s Post. Menopausal
Hot flushes	108 (36%)	522 (58%)	$< 0.0001$
Heart discomfort	117 (39%)	432 (48%)	0.0331
Sleep problems	138 (46%)	468 (52%)	0.1651
Depressive mood	123 (41%)	477 (53%)	0.0043
Irritability	96 (32%)	369 (41%)	0.0293
Anxiety	63 (21%)	288 (32%)	0.0041
Physical & Mental Exhaustion	87 (29%)	486 (54%)	$< 0.0001$
Sexual Problem	75 (25%)	252 (28%)	0.4632

Urinary Problem	96 (32%)	387 (43%)	0.0077
Vaginal dryness	11 (39%)	369 (41%)	0.6775
Joint & muscular discomfort	159 (53%)	504 (56%)	0.5113

Comparison of quality of life scores with menopausal status

Mean SF 36 v2 Scores	PeriMenopausal	Post-menopausal	Pre. Vs Post
Physical Component Summary	63.9	34.6	< 0.0001
Mental Component Summary	57.1	39.4	< 0.0001

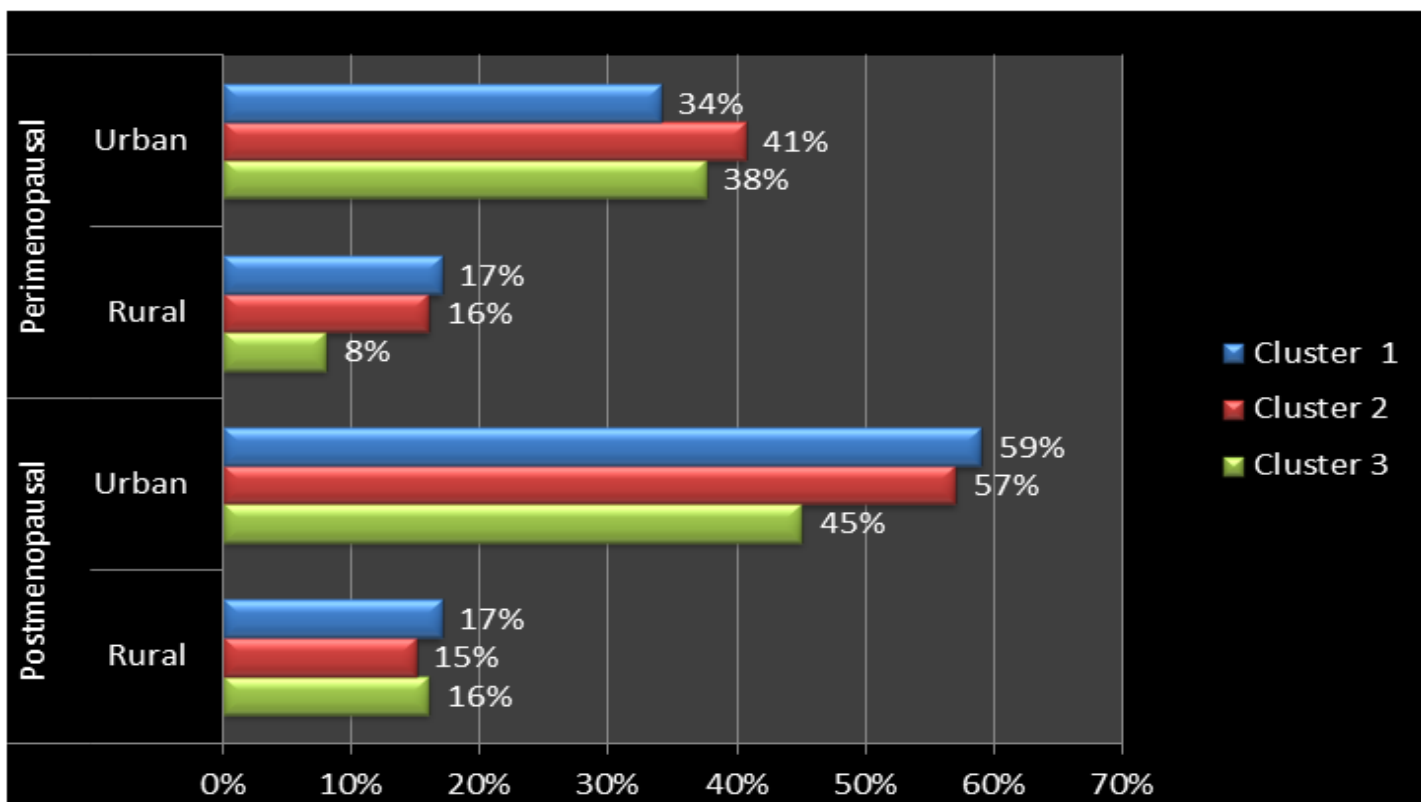
**Prevalence of clusters – Rural v/s Urban**

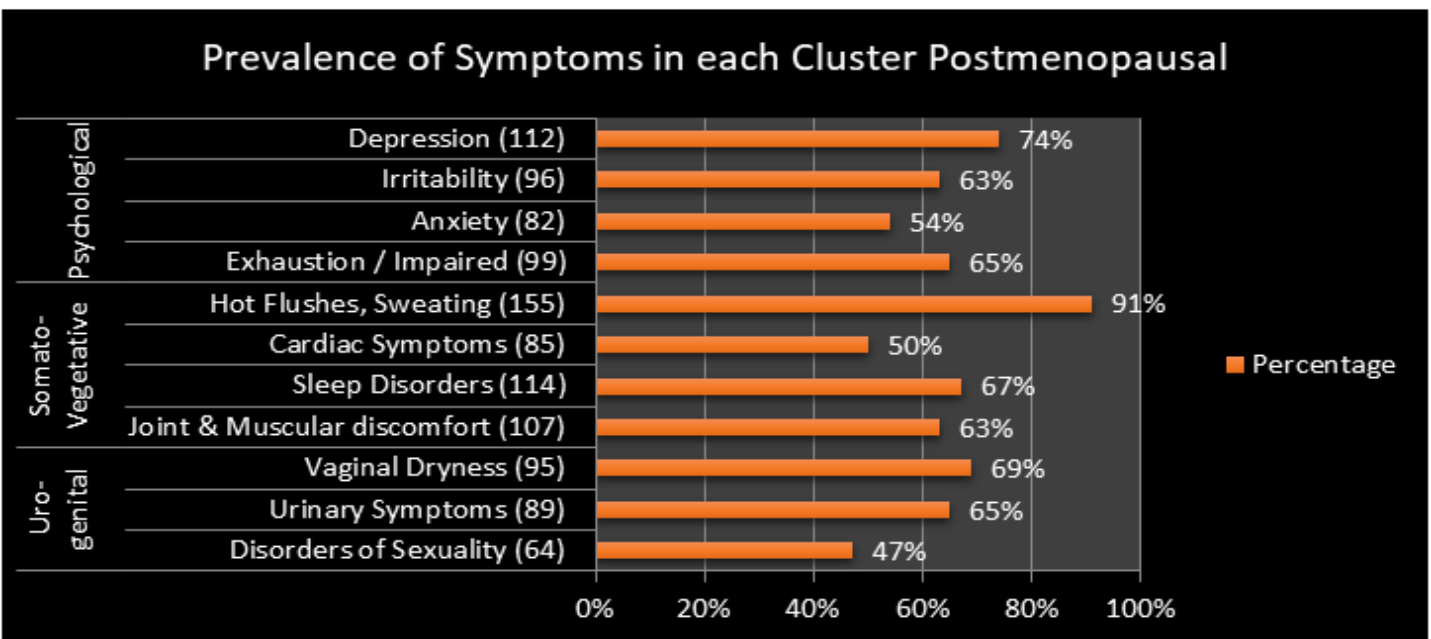
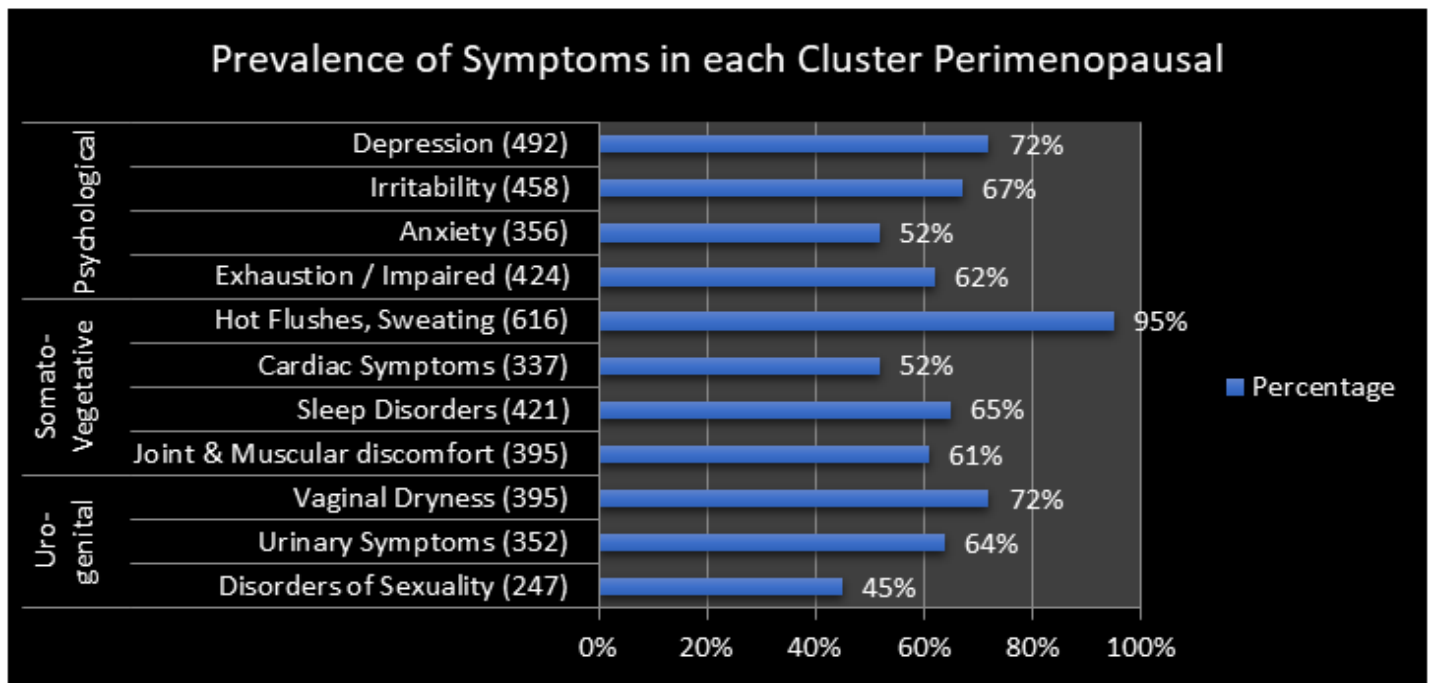
There is significant difference between Rural and Urban women in terms of menopausal symptoms. Most prevalent cluster in urban women being Psychological while in Rural areas women do not report their symptoms frequently.

	Postmenopausal		Perimenopausal		Chi-Square	P Value
	Rural	Urban	Rural	Urban		
Cluster 1	153 (17%)	531 (59%)	50 (17%)	102 (34%)	7.49	0.006
Cluster 2	135 (15%)	513 (57%)	48 (16%)	122 (41%)	4.24	0.039
Cluster 3	144 (16%)	405 (45%)	24 (8%)	113 (38%)	4.49	0.033

The symptoms were more severe in Urban women & particularly who underwent surgical menopause at a younger age.

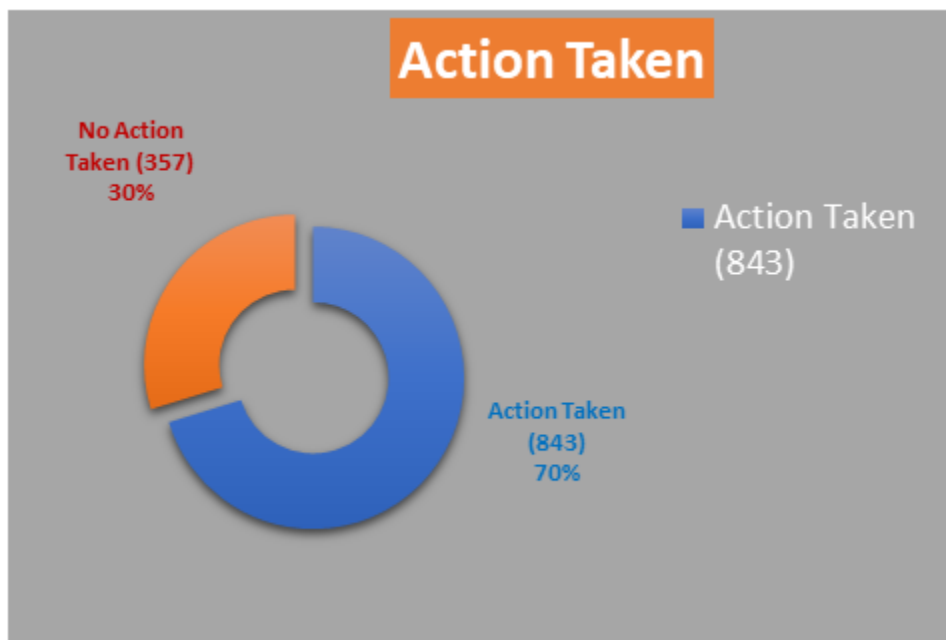
On further analysis of clusters, prevalence & severity of individual symptoms were variable as under.





Actions taken

Approximately 70% women took some action to alleviate symptoms



Age wise action taken

Age	OTC	D / L	Y / E	Ay.	Ho.	Acu.	HRT	Total
40-46 (368)	57 (15.48%)	10 (2.71%)	85 (23.09%)	9 (2.44%)	10 (2.71%)	12 (3.26%)	12 (3.26%)	195 (52.39%)
47-53 (568)	151 (26.58%)	11 (1.93%)	156 (27.46%)	32 (5.63%)	19 (3.34%)	48 (8.45%)	82 (14.43%)	499 (87.85%)
54-60 (192)	37 (19.27%)	5 (2.60%)	28 (14.58%)	5 (2.60%)	5 (2.60%)	10 (5.20%)	8 (4.16%)	98 (51.04%)
>60 (72)	16 (22.22%)	4 (5.55%)	15 (20.83%)	3 (4.16%)	3 (4.16%)	10 (13.88%)	0% (0)	51 (70.83%)
<b>Total</b>	<b>261</b> (21.75%)	<b>30 (2.5%)</b>	<b>284</b> (23.66%)	<b>49 (4.08%)</b>	<b>37 (3.08%)</b>	<b>80 (6.66%)</b>	<b>102 (8.5%)</b>	<b>843</b> (70.25%)

OTC = Over the counter available medicines including multivitamins, calcium, phytoestrogens & Herbs.

D/L = Dietary & Life style changes

Y/E = Yoga & Exercises

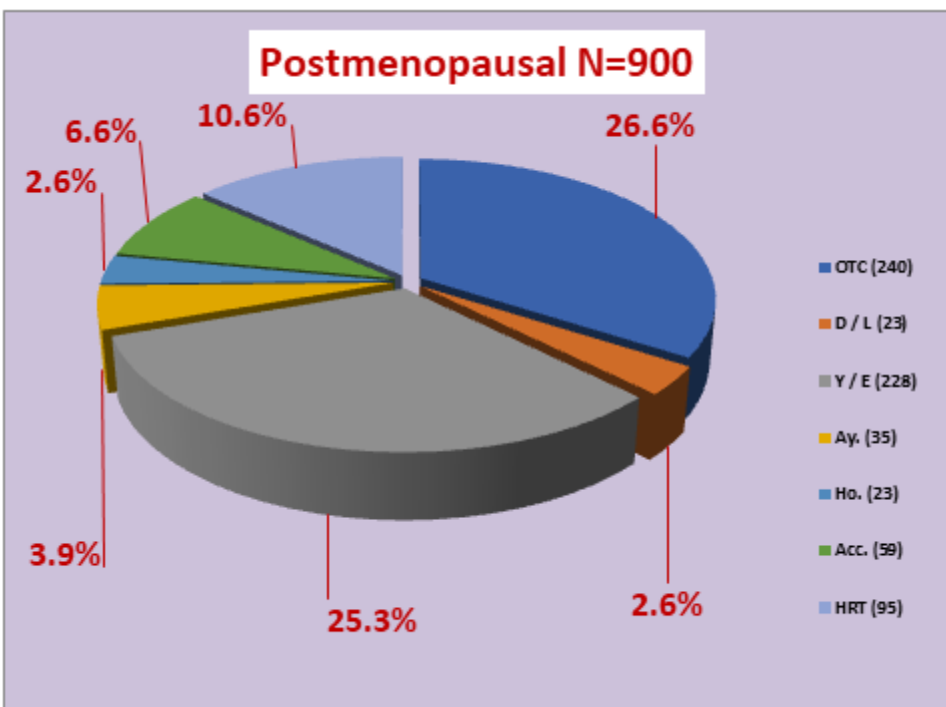
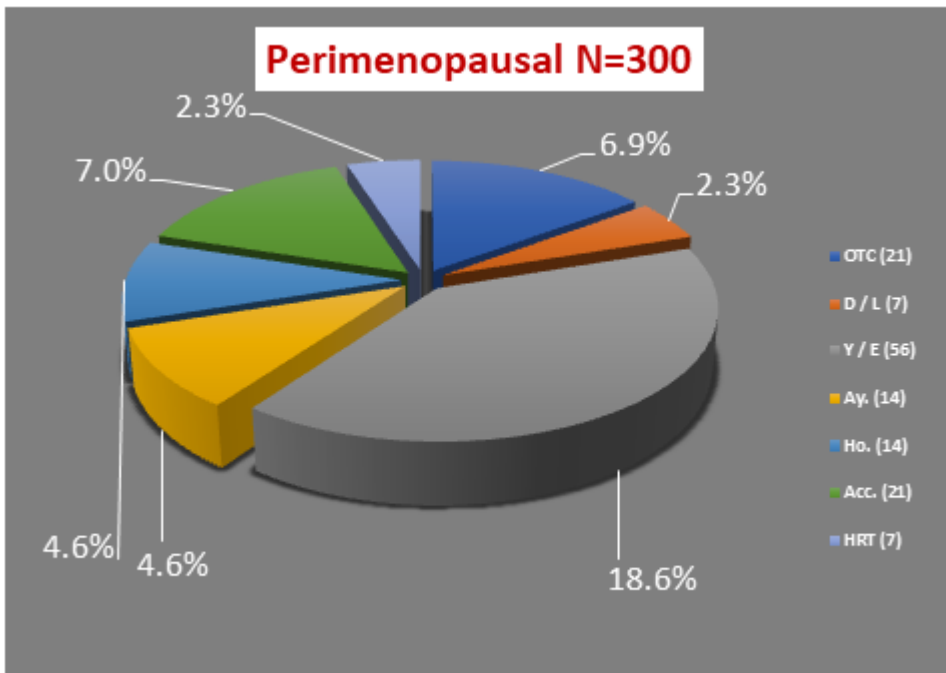
Ay. = Ayurveda

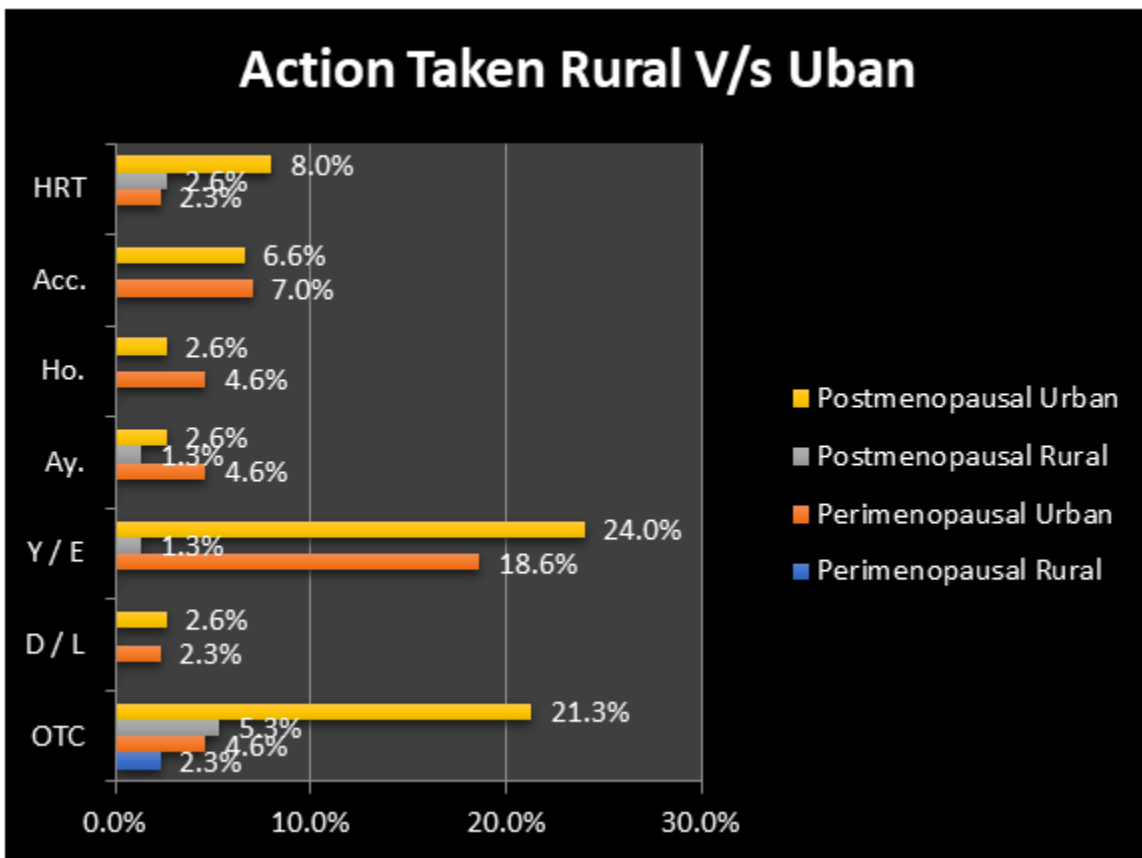
Ho. = Homeopathy

Acu. = Acupressure

HRT = Hormone Replacement Therapy







### Discussion

The prevalence of menopausal symptoms like hot flushes, depression and sleep disturbance was very high in the population studied thus confirming that the Climacteric transition has a large impact on the lives of these women and existence of core menopause brain syndrome is a definite entity.

Women with cluster of symptoms had significantly lower ( $P < 0.05$ ) quality-of-life scores in most of the domains of the Short Form 36 compared with women without symptoms.

The symptomatology in rural and urban women was different. Most prevalent cluster in urban women was psychological while in Rural women did not report frequently. Musculoskeletal pain and vaginal dryness were equally reported.

Younger urban women did try to take actions to alleviate their symptoms. The Yoga exercise was the main measure taken to improve quality of life instead of medicalization of menopause by urban women.

The 2008 consensus statement by the Indian Menopause Society showed that the average age of menopause in India is 47.5 years, which is lower than the average age of 51 years for North American and European women. Premature menopause is on the rise in India due to a combination of environmental and genetic factors. Observational studies suggest that as many as 75% of women experience hot flushes after menopause. Left untreated, most women will have spontaneous cessation of hot flushes within 5 years, although some women continue to experience distressing symptoms for 30 years or more. Indian women living in rural and urban areas report urogenital symptoms, including urinary frequency, urgency, incontinence and dryness, and general body aches and pains. Women in urban areas complain more

about having hot flushes, mood swings, psychological problems, and sexual problems. The onset of menopause heralds a time of diminished estrogen exposure, which may have both acute and chronic effects on health and quality of life.

Conde (2006) et al found that the most prevalent symptoms of menopause were nervousness (67%), and hot flushes and sweating (51%). Factors associated with poorer QoL were sweating, palpitations, nervousness, dizziness, depression, insomnia, and dyspareunia. The authors observed that menopausal symptoms negatively affected QoL in postmenopausal women.

Another study reported by McGinnis (2008)<sup>i</sup> et al investigated factors influencing QoL during the transition to menopause. Participants reported experiencing the common symptoms of menopause, and stressed the variety of strategies used (such as strength training, walking, or yoga) to promote overall well-being.

Lunny and Fraser (2010) investigated the use of complementary and alternative therapies in 423 menopausal women. Ninety-one percent of women reported trying such therapies, including vitamins (61.5%), relaxation techniques (57.0%), yoga/meditation (37.6%), soy products (37.4%), and prayer (35.7%) for their symptoms. The most beneficial complementary and alternative therapies were reported to be prayer/spiritual healing, relaxation techniques, counselling/therapy, and therapeutic touch/Reiki.

Notes –

These diversities probably exist because women experience reduction in estrogen levels in wide variety of ways with great interindividual variation. The perception of symptoms also depends on cultural, customary and religious background. The individual social, economic and emotional support systems of coping with distressing menopausal symptoms play an important role in severity of symptoms.

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