

Severity of Menopausal symptoms and the quality of life at different status of Menopause: a community based survey from rural Sindh, Pakistan

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Severity of Menopausal symptoms and the quality of life at different status of Menopause: a community based survey from rural Sindh, Pakistan

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Abstract

Background: Menopause is the time in women's life when her ovaries stops producing Estrogen and Progesterone, the deficiency of these hormones elicit various somatic, psychological, vasomotor and sexual symptoms that affect the overall quality of life of women. Assessment of quality of life during menopause deserves special attention as with increase in the life expectancy women lives about one third of their lives with hormone deficient state. Studies on menopause and quality of life of menopausal women are scarce and none is conducted before among rural women of Sindh Province, Pakistan.

Objective: To investigate the severity of menopausal symptoms associated with menopausal status and to determine the quality of life of menopausal women from rural Sindh.

Material and Methods: This cross-sectional survey was conducted in 19 Union Councils of Matiary district, Hyderabad Division from November 2007 to October 2008. Among 5,25,082 population dwelling in 1509 villages and 56,053 households of these Union Councils, 3062 women were selected by multistage random sampling method within the age range of 40-70 years. Along with collection of socio-demographic data the Menopause rating Scale (MRS) and WHO Quality of life Brief (WHO QOL Brief) Questionnaire translated in Sindhi Language were filled for each individual subject. Data was entered and analyzed by SPSS V 15.

Results: The mean age at Menopause was 49.38 ± 14.29 years; the mean scores of menopause rating Scale were high in all domains, the significant difference was found in the mean somatic scores of women in Premenopause, perimenopause and post menopause status ($P < 0.001$). The psychological symptoms were more severe for women in perimenopause and post menopause status while the scores for urogenital symptoms were found to be higher in perimenopause women ($P < 0.001$). The mean scores for the physical, psychological, social and environmental domains of WHO QOL questionnaire were found significantly impaired for all women at different status of menopause.

Conclusion: To best of our knowledge this is the first attempt to provide data on menopause and quality of life of women from rural Sindh. The mean scores of all the domains of Menopause rating scale were significantly high in Peri and postmenopausal women from

rural Sindh. The severity of menopausal symptoms decreases the quality of life in everyday life of these rural women.

Key Words: Menopause, Severity of symptoms, Menopause Rating Scale (MRS), Quality of life, WHOQOL

Introduction

Modern medicine has significantly increased the life expectancy of women throughout the world.¹ The world population of women aged over 60 years was below 250 millions in 1960 and it is estimated that in 2030 1.2 billion women will be peri or postmenopausal and this will increase by 4.7 millions a year.²

Menopause is a physiological event in the women's life. It is caused by aging of ovaries which leads to decline in the production of ovarian Gonadotrophins Estrogen and Progesterone. The deficiency of these hormones elicits various somatic, vasomotor, sexual and psychological symptoms that impair the overall quality of life of women.³⁻⁴

Given the rise in the life expectancy the woman can now expect to live approximately one third of her life in hormone deficient state with impaired quality of life (QoL), the study on QOL in menopausal women thus becomes an essential component in clinical practice.⁵

It has been reported that the experience of menopausal symptoms involves not only a complex interaction between sociocultural, psychological and environmental factors but also the biological changes related to the altered ovarian hormonal status or deficiency.^{3,6}

The nature, frequency and severity of symptoms vary not only among the individuals of the same population with different cultures, ethnicities and women from different countries,⁶ but also at different stages of menopause. Several studies reported the experiences of menopausal symptoms of women from different parts of world and the significant impact of these symptoms on QoL of menopausal women at different status of menopause.^{7,8}

The World Health Organization defines QoL as an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns.⁹

Host of studies have been conducted to measure the QoL of menopausal women from western world¹⁰⁻¹² with different sociocultural realities which may influence not only the perception of QoL but also the experience of menopause at different status of menopause. Very little information exists about QoL of menopausal women in developing countries.^{13,14}

The present study is very important as to the best of our knowledge this is the first community based research conducted in rural areas of Sindh. The objective of following research was to investigate the severity of menopausal symptoms associated with menopausal status and to determine the quality of life of menopausal women from rural Sindh Pakistan.

Methods

Study Setting: This population based survey was conducted in one of rural district of Sindh Province Pakistan from November 2007 to October 2008.

Matiary is one of the rural District of Sindh located on the highway comprises of 3 Talika and 19 Union Councils, which are the administrative units defined by National reconstructive Bureau (NRB) Government of Pakistan. The total population of the district is 5, 25,082 living in 56,053 households in the 1509 villages. The majority of peoples are Sindhi speaking Muslims, able to understand the National language (Urdu).¹⁵

Design: A multistage stratified random sampling technique was used for the identification of eligible women. At first stage of sampling 10 union councils from all 3 Talika was selected using lottery method. During the second stage of sampling the name and address list of all the women aged 40 – 70 years was drawn from the Basic Health Centers record (KHANDAN) register which is one of the Health Management and Information System (HMIS) Tools of National Programm for Family Planning and Primary Health Care Pakistan. The total 15721 women's names and addresses were retrieved. In the third stage, out of established list every fourth women was selected randomly. Initially for the selection of first number the lottery method was used for the first four numbers followed by every fourth number onward included into sample. The net sample (without migrated and deceased women) comprised of 3929 women.

Staff and Instruments

Staff: We have selected 5 teams of interviewers each comprised of 3 members two Lady Health Workers and one Lady Health supervisor of National Programm of Family Planning and Primary health Care Matiary Pakistan.

The National Programm of Family Planning and Primary health Care Pakistan is one of the ongoing success stories of health sector in Pakistan. With 100,000 Community based health workers it provides the health care to 30 million peoples in Pakistan. In Matiary district the lady health workers are working efficiently and providing health care to 65% of total population of the district. Each lady health worker provides services to 1000 population and they maintain the HMIS tools including KHANDAN registers.

Each team for the present study was allocated the 2 union councils for the survey. The Lady Health worker (LHW) were directed to conduct interview and lady health supervisor (LHS) was directed to supervise them. The training of data collectors for delivering the questionnaire was done by the researchers and followed by field testing of the questionnaire.

Instruments: The questionnaire for present research comprises of three sections. Section I pertains information regarding demography (like age, education, employment and marital status) and reproductive parameters (such as parity, age at menarche, regularity of menses, years since last menstruation). The socioeconomic status of participants was categorized according to the working status of husband/ brother or son in cases of unmarried or widow

participants. The three groups were categorized as, the non working, laborer and farmers who find it hard to pay for their basic amenities were grouped in the category of poor, those who were working as a government employee or having small business can easily pay for their basic amenities but strive hard to enjoy luxuries were considered in the category of middle class and those who were landlord or upper rank government servant who can enjoy luxuries were classified as upper class. Section II assessed the menopausal symptoms for which Menopause Rating scale (MRS) was used and the section III was related to the assessment of health related quality of life (HRQOL). The WHOQoL Brief questionnaire in Urdu Version was used for it.

Menopause Rating Scale: It comprises of 11 items assessing menopausal symptoms, divided into three subscales. A) Somatic: Hot flushes, heart discomfort, sleep problem and muscles and joint problems. B) Psychological: depression, irritability, anxiety and physical and mental exhaustion. C) Urogenital: Sexual problems, bladder problems and dryness of vagina. Each item can be graded from 0-4, (0= not present), (1=mild), (2=moderate), (3=severe), (4=very severe).¹⁶ For the present study the MRS English version ¹⁷ was translated into local language.

WHOQOL Brief: WHOQOL questionnaire has been developed in order to make a reliable, valid and responsive assessment of generic QOL that is applicable to the people living in different conditions and cultures. Two versions are available the WHOQOL with 100 items and 26 items short form version of WhOQOL 100.^{18,19} We have used WHOQOL Brief (Urdu Version) for its brevity. The Urdu version is has been available with excellent reliability and validity.²⁰

The WHOQOL Brief consists of four domains Physical, Psychological, Social and Environmental. The scores were calculated according to the standard methods that the raw scores were converted to transformation scores. The first transformation converts scores to range of 4-20 and the second transformation converts domain scores to 0-100 scale. Higher scores reflect better quality of life.

Menopause status definition: The menopause status was defined based on the reported length of time since last menstrual period. Women who reported the normal menstrual cycle for last three months were classified as Premenopause. Women who reported change in the length of menstrual cycle for at least seven days from baseline or change in the menstrual flow like lighter or heavier from baseline for last three months were classified perimenopause, those last menstrual periods occurred 12 months or more months ago were categorized as post menopause. Surgical menopause was defined as cessation of menstruation following either removal of ovaries (with or without hysterectomy).²¹

Statistical analysis: Statistical package for social sciences (SPSS) version 15.0 was used for data analysis. Results are presented as numbers (percentages) for qualitative variables and mean \pm standard deviation for normally distributed quantitative variables are reported. Differences in proportion for menopausal status, demographic and health characteristics were assessed by Pearson Chi-square test and difference in mean score for quality of life were compared using analysis of variance or Kruska Wallis test for skewed data. Pearson coefficient of correlation (r) was determined among WHOQOL and MRS score. P-value less

than 0.05 was considered as statistical significant

Ethical Consideration: Both written and oral information about the reasons of the study were given in local language to women invited to participate in the present study. The participants were informed that their inclusion in the study will be voluntary and were given a guarantee of anonymity. They were informed that they were free to withdraw from study and if any question they do not want to answer they can withdraw it.

The executive district officer for National Programm for family planning and Primary health care Matiary district provided permission under reference (NO: EDO(H) Matiari/E-1/-7256/57) to conduct the present study.

Results

During the study period total 3929 women were approached to participate. Out of it 167(4.2%) were migrated / not available at their addresses. 318(8.0%) has refused to participate in the survey. 382(9.7%) were excluded because of incomplete questionnaires. The net sample comprises of 3062 women. The mean age of entire sample was 49.38 ± 7.20 (median 48) and range was 40-70 year.

Half of the women were aged 41-60 years. The proportion of women who receive no formal education was 2611(85.3%), only 39(1.3%) of them having 12 years or >12 years of education.

Most of women 3037 (99.1%) were married, house wives 2316 (75.6%) and living with husband 2354 (76.9%).

Majority of the study population 1979 (64.6%) belongs to poor socioeconomic status, while only 176(5.7%) were from upper class. The mean parity was 6.65 ± 3.39 with range 0-20.

Regarding the menopausal status of whole population surveyed the post menopause was reported by 1478(49.1%) of women, the pre and peri menopausal status was reported by 641(21.3%) and 892(29.6%) respectively, while 51(1.6%) women did not sure about their menopausal status. As shown in table I.

Table II shows the distribution of symptoms contained in MRS presented as percentages and mean scores in relation to menopausal status.

The percentages for somatic, psychological and urogenital symptoms were significantly high in women at peri and postmenopausal status, while the symptom experience of Premenopausal women is lower than peri and postmenopausal women.

The total MRS score was found significantly high in peri and postmenopausal women (15.2 ± 7.3) and (14.4 ± 7.8) $P < 0.001$ in comparison of Premenopausal women (11.9 ± 6.5).

The WHOQOL Brief scores for different menopausal status were presented in table III.

We have found significantly lower scores in physical, psychological and somatic domains for Post menopausal women as compared to pre and perimenopausal group($P = < 0.001$).

The correlation between MRS scores and WHOQOL- Brief scores is shown in table IV. In the Pre and perimenopause group only one, the physical domain was found to be significantly associated with MRS scores while the negative correlation between MRS scores and WHOQOL- Brief scores in all domains was found for postmenopausal women.

Discussion

So far, to the best of our knowledge, this is the first kind of study conducted in rural area of Sindh to assess the severity of menopausal symptoms and quality of life of menopausal women.

The present study indicated an overall increase prevalence of menopausal symptoms in studied population than those found in literature.²²⁻²⁶

The reasons for different frequencies can be many as the menopausal symptoms are influenced by sociodemographic/sociocultural factors, economical stresses, general health status, individual perception of menopause, genetic and racial differences and reproductive parameters like parity. Apart from all these differences the different design of studies, sample size, age range, distribution of menopausal status of participants and the instruments used may also account for discrepant findings.

In present study we have used MRS for the scoring symptom, which is validated instrument¹⁶ Schneider et al evaluated the MRS for evaluation of menopausal symptoms by comparison with other instruments relevant for women in menopausal transition. It was found that there was a high association of raw scores between Kuppermen index, Sf-36 and the MRS.²⁷

The present study indicated significant increase in percent occurrence of Somatic, Psychological and Urogenital symptoms from Premenopausal to perimenopausal status, while the symptoms either decline or remain stable in the postmenopausal women, similar findings were reported in literature.^{14, 28}

This may correlates with fluctuating levels of estrogen in the blood from Premenopause to Peri and postmenopausal period.

Like present study several other studies from literature reported that physical and psychological symptoms were highly significant in Asian women.^{14,24, 29,30,31}

The different cross sectional surveys conducted on different population including women from England, Holland, Taiwan, Chili, France, Sudan, Japan, china and Africa showed that perimenopausal women reported great bodily pain and role limitation due to physical health and environmental problems.^{32,33}

The data for present study showed that the mean scores of MRS were significantly high for Somatic and Psychological symptoms in Peri and Postmenopausal women these findings were consistent with several other studies.³⁴

It may be due to the fact that most of our studied subjects were from poor, less educated and with high parity. The poor women having fewer intakes of healthy and caloric diet, poor awareness and excess to health facility and excessive physical work to take care of family and concerns regarding the needs of growing children may be the reasons for the high MRS scores for physical and Psychological domain.

Another aspect of worth mentioning is the fact that the urogenital symptoms including sexual problems, bladder problems and dryness of vagina were less frequent; the individual and overall scores of MRS were also low for urogenital domain.

The possible explanation to it may be that the postmenopausal women are less active sexually in our rural society³⁵ they become involved in taking care of their grand children and in performing religious activities like offering prayers and other rituals.

We have found significant difference in the mean scores of the domain (Physical, Psychological, Social) and the total scores of WHOQOL- Brief at different menopausal status, these findings were inconsistent with other reports from the literature^{14, 36, 37}

This may be due to the high scores of MRS for different menopausal symptoms. We did not found significant difference in scores for environmental domain of WHOQOL- Brief. The environmental domain assess the influences on the QOL of factors like financial resources, the work environment, access to health and social care, freedom, security.

These may not play a major role in detecting health status at different menopausal status.

The correlation between MRS scores and WHOQOL- Brief scores indicated that there was a significant difference between the Premenopause, Perimenopause and post menopause group. In the Premenopause and perimenopause group only one, the physical domain was found to be significantly associated with MRS scores on the other hand there was a negative correlation between MRS scores and WHOQOL- Brief scores in all domains for postmenopausal women.¹⁴

In present study we have found that the magnitude of menopausal symptoms on MRS were almost similar for Peri and postmenopausal women but the WHOQOL-Brief scores for all domain were significantly lower for postmenopausal women, it indicates that not only the menopausal symptoms but aging, increasing frequency of chronic illness and social deprivation may have negative impact on QOL of menopausal women. This requires further studies in the relation to the impact of menopausal symptoms at various age groups.

There are several limitations with the present study. First the women were asked to provide some retrospective information such as climacteric symptoms experienced in preceding weeks, regularity of menses and last menstrual period hence the recall bias is unavoidable especially in some older women. The lack of correct information on regularity of menses the some subjects could have been misclassified in Peri and Premenopausal status Second the

seasonal onset of some menopausal symptoms like sweating might be a confounding factor as the weather of the region is hot and women may not distinguish between the sensations of heat and sweating caused by hot weather. Third this was a cross sectional survey, for determination of relation between cause and effect of menopausal symptoms and QOL requires the longitudinal cohort studies to be conducted. Further investigations will be expected in more extensive geographic areas with larger population in Pakistan.

Strengths of present study are the population based character and the use of validated instruments to assess Menopausal symptoms and QOL.

Conclusion

The rural women from Sindh Province Pakistan at various menopausal status experience high prevalence of menopausal symptoms. The high percentage and the Scores of MRS were observed in perimenopausal and postmenopausal women. The severity of symptoms was found more distressing for postmenopausal women then for women at other status of menopause. The QOL of postmenopausal rural women was decreased due to severity of menopausal symptoms.

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Conflict of Interest: Nil

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Table I: sociodemographic characteristics and menopausal status of studied Population (N=3062)

Characteristics	n	%
Age in years		
40-46	1314	42.9
47-53	870	28.4
54-60	656	21.4
>60	222	7.3
Education of women in years		
No Formal education	2611	85.3
5 years	331	10.8
8 years	37	1.2
10 years	44	1.4
12 years	15	0.5
>12 years	24	0.8
Occupation of Women		
House wife	2316	75.6
Farmer	314	10.3
Laborer	221	7.2
Servant	61	2.0
Others	150	4.9
Socioeconomic status		
Poor	1979	64.6
Middle class	907	29.6
Upper class	176	5.7
Marital status		
Currently married	2354	76.9
Single	23	0.9
Widow	634	20.7
Separated	46	1.5
Divorced	03	0.09
Menopausal Status		
Post menopause	1478	48.3
Perimenopause	892	29.1
Premenopause	641	20.1
Undefined	51	1.7

Results are presented as number and percentage.

Table II: The MRS: Scores and percentages per subscale and symptoms

Subscale and symptoms	Menopausal Status			p-value*
	Pre-menopause	Peri-menopause	post-menopause	
Somatic	(5.2 ± 3.0)	(6.1 ± 3.1)	(6.1 ± 3.5)	<0.001
1. Hot flushes, sweating (%)	72.2, (1.0 ± 0.9)	76.7, (1.3 ± 1.1)	70.2, (1.3 ± 1.2)	0.003, <0.001
2. Heart discomfort (%)	68.8, (1.0 ± 0.9)	76.0, (1.3 ± 1.1)	67.9, (1.3 ± 1.2)	<0.001, <0.001
3. Sleeping problems (%)	79.7, (1.3 ± 1.0)	85.3, (1.5 ± 1.1)	79.2, (1.5 ± 1.2)	0.001, 0.002
11. Muscle and joint problems (%)	82.1, (1.8 ± 1.4)	85.7, (2.0 ± 1.3)	83.3, (2.0 ± 1.4)	NS, 0.092
Psychological	(4.9 ± 3.3)	(6.4 ± 3.7)	(6.4 ± 4.1)	<0.001
4. Depressive mood (%)	72.4, (1.8 ± 1.4)	82.8, (2.0 ± 1.3)	77.4, (2.0 ± 1.4)	<0.001, <0.001
5. Irritability (%)	75.8, (1.8 ± 1.4)	85.2, (2.0 ± 1.3)	75.9, (2.0 ± 1.4)	<0.001, <0.001
6. Anxiety (%)	71.0, (1.8 ± 1.4)	82.0, (2.0 ± 1.3)	72.3, (2.0 ± 1.4)	<0.001, <0.001
7. Physical and mental exhaustion (%)	85.2, (1.8 ± 1.4)	88.7, (2.0 ± 1.3)	83.8, (2.0 ± 1.4)	0.004, <0.001
Urogenital	(1.8 ± 1.8)	(2.7 ± 2.3)	(1.9 ± 2.3)	<0.001
8. Sexual problems (%)	64.0, (1.1 ± 1.1)	74.0, (1.4 ± 1.1)	60.5, (1.0 ± 1.1)	<0.001, <0.001
9. Bladder problems (%)	34.6, (0.4 ± 0.7)	46.2, (0.8 ± 1)	34.2, (0.7 ± 1.1)	<0.001, <0.001
10. Dryness of the vagina (%)	31.8, (0.4 ± 0.6)	46.7, (0.7 ± 1)	27.2, (0.5 ± 0.9)	<0.001, <0.001
Overall Mean Score	(11.9 ± 6.5)	(15.2 ± 7.3)	(14.4 ± 7.8)	<0.001

Result are presented as percentage, (mean ± Standard deviation)
 *p-values are based on chi-square and Kruskal Wallis test
 NS: non-significant

Table III: Mean WHOQOL-BREF cores for menopausal status

Domains	Premenopausal (n= 641)	Peri menopause (n = 892)	Post menopause (n = 1478)	P-value
Physical	58.24 ± 16.15	56.98 ± 16.65	53.5 ± 16.79	<0.001
Psychological	55.49 ± 15.52	56.17 ± 16.22	52.86 ± 16.98	<0.001
Social	57.71 ± 22.95	58.08 ± 23.33	54.31 ± 24.47	<0.001
Environmental	52.96 ± 19.57	55.14 ± 20.05	54.74 ± 20.84	0.093
GH (Q1)	3.55 ± 0.86	3.42 ± 0.91	3.34 ± 0.88	<0.001
GH Q2)	3.47 ± 0.93	3.29 ± 1.01	3.24 ± 1.01	<0.001
Overall Mean Score	56.10 ± 15.40	56.59 ± 15.95	53.85 ± 116.61	<0.001

Result are presented as percentage, (mean ± Standard deviation)
 *p-values are based on ANOVA

Table IV: Pearson's correlations of WHOQOL-BREF with MRS scores

Subscale and symptoms	Premenopausal (n= 641)		Peri menopause (n = 892)		Post menopause (n = 1478)	
	r	p-value	r	p-value	r	p-value
Physical	-0.23	<0.001	-0.20	<0.001	-0.35	<0.001
Psychological	-0.08	0.039	-0.05	0.118	-0.18	<0.001
Social	-0.04	0.267	-0.08	0.024	-0.16	<0.001
Environmental	-0.02	0.714	0.003	0.934	-0.12	<0.001
GH (Q1)	-0.17	<0.001	-0.02	0.585	-0.24	<0.001
GH (Q2)	-0.04	0.315	-0.078	0.020	-0.26	<0.001
Overall Mean Score	-0.10	0.009	-0.09	0.006	-0.23	<0.001