

Variations in Menopausal Symptoms as a Function of Education, Employment Status, and Income

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The purpose of the present study was to see the effect of demographic variables on experience of menopausal symptoms among premenopausal, perimenopausal, and postmenopausal women. Sample of study was comprised of 348 women (116 for each menopausal status). Menopausal symptoms were assessed by Greene Climacteric Symptoms Scale (Greene, 1998). Two-way ANOVA analyses of demographic variables indicated that working women experienced fewer menopausal symptoms than non-working. The mean scores indicate that in all three groups of menopausal stages (pre-, peri-, and postmenopausal), women with lower level of education experience more menopausal symptoms than women with higher level of education.

Keywords: Demographic variables, menopausal symptoms, premenopausal, perimenopausal, and postmenopausal women

Menopause is one of the most significant stages in women's life. Menopause is defined as the everlasting ending of menstruation causing from the loss of ovarian follicular activity (World Health Organization, 1980). Menopause usually occurs between the ages of 45 and 54 years with an average of 51 years (Jassim & Al-Schboul, 2008). Research conducted in Lahore by Yahya and Rehan (2003) found that mean age at menopause is 49 years.

In women's life menopause is a period that is characterized with certain physical and biological changes due to the estrogen deficiency and divided into three types premenopausal, perimenopausal, and postmenopausal. *Premenopausal* includes women who have regular menstruation within the previous 12 consecutive months with slight menopausal symptoms. *Perimenopause* is defined irregularity in menstrual flow for the last three months or less than 12 months ago. *Postmenopause* includes the women who have not menstruated during the past 12 consecutive months ago (Hunter & Rendall, 2006; Kaewboonthum, 2003).

Menopause is considered to be a significant transition in women's life and this transition brings many changes which are not only biological but also psychological. Menopause is not a disease but might cause severe physical and psychological problems and symptoms (Rostami, Ghorfranipour, Ramazanzadeh, & Kazemnejad, 2004). The biological changes during this phase influence their daily life activities including physical and emotional health (Blumel, Schumacher, Weider, & Brahler, 2002; Oldenhav, Jazsmann, Haspels, & Everaerd, 1993).

Psychological symptoms of menopause are reported to include loss of energy and drive, difficulty in concentration, irritability, aggressiveness, nervous exhaustion, and fluctuation in mood, tension, depression, marital problems, panic attacks, and insomnia. The most commonly described psychological symptoms are irritability, depression, hot flushes, tension, and headache (Kaewboonthum, 2003; Nisar & Sohoo, 2010; Yahya & Rehan, 2003).

Physical symptoms of menopause include vasomotor symptoms and somatic symptoms. Somatic symptoms like vaginal dryness, loss of libido, urinary symptoms, aches and pains in joints, tiredness, urinary problems and breathing difficulty, feeling dizzy or faint, tightness in head or body, loss of feeling in hands

and feet (Ballard, 2003; Nagar & Dave, 2005; Nisar & Soho, 2009; Obemeyer, Chorayeb, & Reynold, 1999; Rehman, Salehin & Iqbal, 2011; Rizk, Ezimokari, Hassan, Micallef, 1998; Thomas, 2005).

Vasomotor symptoms include symptoms like hot flushes and night sweats. These are the most commonly recognized and reported symptoms of menopause in western cultures (Campbell & Monga, 2000). Pakistani women also reported hot flushes as an important and disturbing stimulus (Nisar & Soho, 2009). The study reported that 66.3% women reported to have experienced hot flushes in menopausal stage. Another study conducted in rural Sindh reported that 69.4% women experienced hot flushes (Nisar, Soho & Sikandar, 2012). Adhi, Hassan, Shoib & Tauheed (2007) reported that 82% women from Karachi, Pakistan experience hot flushes in menopausal stage. However, the women from Japanese, Chinese, and Mayan cultures, where there is not even a word to describe hot flushes (Speroff, Glass & Kase, 1999)

Menopausal symptoms are also related to certain demographic variables. Educational level, employment status and economic condition are the significant demographic variables in this respect. Better educated women report menopausal symptoms (Jokinen et al., 2003). Lower level of education in women could lead to psychological changes, which would be basis for menopausal symptoms (Blumel, et al., 2002).

Psychological symptoms e.g., anxiety, depression, irritability, and loss of interest in most things are frequently experienced by non-working women than working women. (e.g., Orgulo, Kucuk, & Aksu, 2011; Mathews & Bromberger, 1994). Non-working women also experience more somatic symptoms e.g., muscle or joint problems, headache, and breathing difficulties, and vasomotor symptoms e.g., hot flushes, sweating at night than working women. (Orgulo et al., 2011; Kakkar, et al., 2007).

The research evidences suggest that with increasing age sexual desire decreases, particularly when women are in their late 40s and 50s (Howon et al., 1994; Osborn et al, 1988). Non-working women are more likely to have urinary problems and dryness of the vagina. (Orgulo et al., 2011). Studies suggest that working women experience fewer menopausal symptoms than non-working women and also indicate that employment status has a positive effect on menopausal symptoms (Mathews & Bromberger, 1994; Stopes & Cochrane, 1981).

Economic status has also been found as an important variable in studies of menopause. Gerber (2001) found that women with good economic status experience fewer menopausal symptoms or would bear them better (Fahami, Beygi, Zahraei, & Arman, 2007). The present research was conducted to explore the relationship between experience of menopausal symptoms and certain demographic characteristics like education, employment and economic conditions. These findings are contribution to the existing indigenous literature as cultural factors may interfere with women's knowledge and beliefs. The present study aims to compare women of Islamabad and Rawalpindi cities of pre-, peri-, and postmenopausal stages on education, employment status and economic condition.

The hypotheses formulated for this study are as follows:

1. Women with higher education level will experience less menopausal symptoms than women with lower education level.
2. Working women will experience less menopausal symptoms as compared to the non-working women.
3. Women belong to lower income families will experience more menopausal symptoms than higher income families.

Method

Sample

Sample of the present study comprised of 348 women (116 for each menopausal status) with age range of 36-60 years. Their menopausal status was classified as pre-, peri-, and postmenopausal by using a common method of menopause classification that is a length of time since last menstrual period (Deeks & McCabe, 2004). Premenopausal = no noticeable change in flow or frequency of menstruation over at least 12 months; Perimenopausal = changes in menstrual frequency and flow in previous 12 months associated with menopause; Postmenopausal = no menstrual flow for 12 months or more. The age range of premenopausal women was 36-46 years ($M = 40.83$, $SD = 3.09$). Perimenopausal women's age was 39-55 years ($M = 47.78$, $SD = 4.89$). Women in postmenopausal group were with age range of 44-57 years ($M=50.92$, $SD=3.25$). They were all married, working and non-working women with at least one child (to rule out the stress factor of being single and childless). Minimum education of the participants was matriculation

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and had achieved natural menopause, without any intervening cause such as pregnancy, lactation, exogenous hormone use, dietary deficiencies, or surgical removal of the uterus or ovaries.

Instrument

To measure the experience related to menopausal symptoms Greene Climacteric Symptoms Scale (GCSS) was used.

Green Climacteric Symptoms Scale (GCSS; [Greene, 1998]). GCSS includes 21 items, with a 4-point Likert type scale response scheme (0 not at all, 1 a little, 2 quite a bit, and 3 extremely). GCSS is consisted of 3 subscales psychological symptoms (items 1-11), Somatic scale (items 12 to 18), and Vasomotor scale (items 9 to 20). Item 21 is a probe for Sexual Dysfunction. High scores on scale show high experience of symptoms related to menopause and low scores show less experience of symptoms. Test-retest reliability of Psychological scale is 0.87, for Somatic (physical) Scale is 0.84, and for Vasomotor Scale is 0.83.

Demographic Sheet Demographic information related to level of education, monthly family income, marital status, age, profession, menopausal status, was collected.

Procedure

The data was collected from different areas of Rawalpindi and Islamabad. Participants were informed about the purpose of the present study, and their consent was taken for participation in the study. Participants were approached at their homes and work places, and purposive sampling technique was used to collect the data. According to the literature review, it was decided that married with at least with one child, working and non-working women will be included in the sample. They were requested to give their responses honestly and accurately. They were also asked to give responses on all the items of the scales.

Results

To find out whether the experience of menopausal symptoms is differing on certain demographic variables e.g., education level, employment status, and monthly income of the family, Two-way ANOVA analyses were carried out.

It was hypothesized that “women with lower education level will experience more menopausal symptoms than women with higher education level”. To test the hypothesis, two way ANOVA analyses were carried out.

Table 1

Mean, Standard deviations, and F-values of pre, peri, and postmenopausal women on the Psychological subscale of the GCSS, from lower and higher educational groups (N= 348)

Scales	Employment status	Premenopausal (n=116)			Perimenopausal (n=116)			Postmenopausal (n=116)			F-values			η^2
		n	M	SD	n	M	SD	N	M	SD	Menopause	Education	Menopause× Education	
Psychological	Lower	68	11.11	9.19	55	19.09	7.55	71	13.74	4.55				
	Higher	48	8.37	8.46	61	14.61	8.20	45	12.20	5.79	25.84**	13.42**	1.24	.01
Somatic	Lower	68	4.39	3.15	55	9.03	5.13	71	7.78	3.51				
	Higher	48	4.35	4.31	61	7.08	4.26	45	5.64	2.81	25.54**	10.43**	2.46	.01
Vasomotor	Lower	68	1.38	1.09	55	2.85	1.92	71	1.74	1.79				
	Higher	48	0.75	0.76	61	1.91	1.25	45	1.71	0.92	25.43**	12.42**	3.03*	.04
Sex	Lower	68	1.47	1.54	55	2.14	0.67	71	1.88	0.71				
	Higher	48	1.27	0.93	61	1.90	0.95	45	2.00	1.02	13.53**	0.98**	4.86**	.09
Total GCSS Scales	Lower	68	18.36	14.20	55	33.12	14.34	71	33.12	9.35				
	Higher	48	14.75	13.74	61	25.51	13.92	45	25.51	9.24	28.80**	12.83**	4.27**	.08

In Table 1 Two-way ANOVA results indicate that there is a significant main effect of the menopausal status and education but non-significant interaction effect between menopausal status and education on psychological and somatic menopausal symptoms. There is significant main and interaction effect of menopausal status and education on vasomotor symptoms, sexual symptoms of menopause and total scores of Greene climacteric symptoms scale. The mean scores indicate that in all three groups of menopausal stages (pre-, peri-, and postmenopausal), women with lower level of education experience more menopausal symptoms than women with higher level of education.

These differences support our hypothesis that “women with lower education level will experience more menopausal symptoms than women with higher education level”.

It was hypothesized that “working women will experience fewer menopausal symptoms than non-working women. To test the hypothesis Two-Way ANOVA analyses were done.” The results are shown in Tables 2.

Table 2

Mean, Standard deviations, and F-values of pre, peri, and postmenopausal women on total and subscales of the GCSS, for working and non-working women (N= 348)

Scales	Employment status	Premenopausal (n=116)			Perimenopausal (n=116)			Postmenopausal (n=116)			F-values			η_p^2
		n	M	SD	n	M	SD	n	M	SD	Menopause	Employment	Menopause× Employment	
Psychological	Non-working	59	11.84	9.86	63	18.24	8.09	69	14.32	4.59	23.24**	16.69**	1.21	.00
	Working	57	8.05	7.52	53	15.01	8.00	47	11.43	5.35				
Somatic	Non-working	59	4.64	3.47	63	8.74	4.95	69	7.94	3.6	24.85*	12.46**	1.58**	.04
	Working	57	4.10	3.35	53	7.16	4.46	47	5.56	2.54				
Vasomotor	Non-working	59	1.37	1.11	63	2.64	1.76	69	1.94	1.78	21.86**	12.70**	.047	.00
	Working	57	0.85	0.83	53	2.03	1.50	47	1.43	0.94				
Sex	Non-working	59	1.77	1.45	63	2.11	0.81	69	2.02	0.71	13.12**	14.66**	3.17*	.09
	Working	57	0.98	1.04	53	1.90	0.86	47	1.79	0.98				
Total GSCS	Non-working	59	19.64	15.19	63	31.74	14.69	69	26.23	9.34	26.51**	17.69**	.007*	.04
	Working	57	14.00	12.28	53	26.13	13.96	47	20.27	8.50				

In Table 2 Two-way ANOVA results indicate that there is a significant main effect of the menopausal status and employment status on total and all subscales of the GCSS, and significant interaction effect between menopausal status and employment status on somatic and sexual menopausal symptoms and total scores of the GCSS. The mean scores indicate that in all three groups of menopausal status (pre-, peri-, and postmenopausal) non-working women experience more menopausal symptoms than working women.

These results support the hypothesis that “working women will experience fewer menopausal symptoms than non-working women. To test the hypothesis Two-Way ANOVA analyses were done.”

It was also hypothesized that “women belong to lower income families will experience more menopausal symptoms than higher income families”.

To test the hypothesis Two-way ANOVA was carried out. Results are shown in table 3.

Table 3

Mean, Standard deviations, and F-values of pre, peri, and postmenopausal women on total and subscales of the GCSS, for women belong to higher and lower income families (N= 348)

Scales		Premenopausal (n=116)			Perimenopausal (n=116)			Postmenopausal (n=116)			F-values			η_p^2
		n	M	SD	n	M	SD	N	M	SD	Menopause	Income	Menopause× Education	
Psychological	20-39 yrs	34	11.11	9.19	55	19.09	7.55	71	13.74	4.55				
	40-59 yrs	65	8.37	8.46	61	14.61	8.20	45	12.20	5.79	25.84**	12.91**	1.09	.01
	60 & above													
Somatic	20-39 yrs	34	4.39	3.15	55	9.03	5.13	71	7.78	3.51				
	40-59 yrs	65	4.35	4.31	61	7.08	4.26	45	5.64	2.81	25.54**	10.43**	2.46	.01
	60 & above													
Vasomotor	20-39 yrs	34	1.38	1.09	55	2.85	1.92	71	1.74	1.79				
	40-59 yrs	65	0.75	0.76	61	1.91	1.25	45	1.71	0.92	25.43**	12.42**	3.03*	.02
	60 & above													
Sexual	20-39 yrs	34	1.47	1.54	55	2.14	0.67	71	1.88	0.71				
	40-59 yrs	65	1.27	0.93	61	1.90	0.95	45	2.00	1.02	13.53**	0.98**	4.86**	.12
	60 & above													
Total GSCS	20-39 yrs	34	18.36	14.20	55	33.12	14.34	71	33.12	9.35				
	40-59 yrs	65	14.75	13.74	61	25.51	13.92	45	25.51	9.24	28.80**	12.83**	4.27**	.11
	60 & above													

In Table 3 Two-way ANOVA results indicate that there is a significant main effect of the menopausal status and income on psychological and somatic subscales of the GCSS, and significant main and interaction effect between menopausal status and monthly income of the family on somatic and sexual menopausal symptoms and total scores of the GCSS. The mean scores indicate that in all three groups of menopausal

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status (pre-, peri-, and postmenopausal) women belonging to less monthly income experience more menopausal symptoms.

The analytical comparison revealed from the results shown in Tables 1 to 3, that menopause status has significant impact on all subscales (Psychological, Somatic, Vasomotor, and Sexual), and total scores of the GCSS along with the demographic characteristics like education, employment, and economic conditions.

Discussion

The present research was aimed to see the effect of certain demographic variables on the experience of menopausal symptoms. Concerning educational level, in current study, women with higher level of education, experience fewer menopausal symptoms (see Table 1). Women with lower level of education experience more menopausal symptoms (vasomotor, somatic, & sexual) than women of lower level of education. Lower level of education in women might lead to psychological changes, which would be foundation for menopausal symptoms (Blumel et al., 2002). It appears that higher level of education get the person better job, income and social statuses. Also, higher education may be contributing to superior acquaintance in many features of personal positions.

Findings of the employment status with respect to the menopausal symptoms reveal that working women experience fewer menopausal symptoms than non-working women. Psychological symptoms are frequently experienced by non-working women than working women (see Table 2). The reason might have been that multiple roles increase self-confidence and feeling of self-worth and expand the provisions of satisfaction and social support. These findings are also in accordance with the earlier researches (e.g., Orgulo et al., 2011; Mathews & Bromberger, 1994). Somatic symptoms and vasomotor symptoms are also more frequently experienced by non-working women than working women (see Table 3-6). This is because working women might be more likely to up keeping themselves and alters their diet and routine (walking, exercise). These results are also in line with the findings of others researchers (e.g., Orgulo et al., 2011; Kakkar et al. 2007).

Findings of the present research indicate that non-working women experience loss of sexual desires which indicates that non-working women have less interest in sex than working women. The cause might be that working women take more care of their own cleanliness. Being mobile and financial freedom, may have been interpreting them in better position to deal with urinary and vaginal dryness problems (Orgulo et al., 2011). These results support the hypothesis that "working women experience less menopausal symptoms than non-working women" and also indicate that employment status has a positive effect on menopausal symptoms (Mathews & Bromberger, 1994; Stopes & Cochrane, 1981).

Present study also reflected economic status of the women and as Gerber (2001) found that women with good economic status experience fewer menopausal symptoms or would abide them better. The results of current research also unveil that women belonging to higher income families experience less menopausal symptoms as compared to the women of lower income families (see Table 3). It appears from the findings of the present study that better economic status results from higher education and better job. So, these would be effective factors to reduce symptoms and changes of menopause (Fahami et al., 2007). In low income families fewer intake of healthy diet, less health services, disproportionate physical exertion to take care of households and pressure regarding needs of growing children can be the reasons for these findings. These findings are also in accordance with Nisar et al., (2012).

In conclusion it can be said that employment status, education, and economic conditions are the important demographic characteristics which play a significant role in the experience of menopausal symptoms among menopausal women. Women belong to high income families, having high level education and working experience fewer menopausal symptoms in all three menopausal groups, and further more perimenopausal women experience more menopausal symptoms as compared to the premenopausal and postmenopausal women regarding all demographic characteristics education, employment status, and economic conditions.

The present study provides overall empirical evidences and theoretical understanding about menopause and its relationship with certain demographic variables among pre-, peri-, and postmenopausal women. There are also some limitations of the present study first; the cross sectional design suggests that there may be the differences in the way women of different menopausal status experience of menopausal

symptoms. Longitudinal study may help to the mental health practitioners to understand women's experience as they move through the menopausal transition. Second, Instead of quantitative research, qualitative research may allow women to reveal their experiences and perceptions during midlife would expand the understanding of this midway life stage.

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