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Lifestyle Behaviors among Postmenopausal Women in Khyber Pakhtunkhwa, Pakistan

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ABSTRACT

Objective: To assess the level of adherence to health promoting behaviors among postmenopausal women in Abbottabad, Khyber Pakhtunkhwa.

Methods: A cross-sectional study was conducted in Basic Health Units of Abbottabad from May to December 2019. All women whose menstrual cycle stopped 12 months back were included in the study. An adopted questionnaire of Health Promoting Lifestyle Profile II was used for lifestyle behavior assessment. Overall score ranges from 52-208, where 25-103 means "Low", 104-155 "Moderate" and 156-208 means "High" level of adherence to health promoting lifestyle behaviors. Level of adherence was further categorized into two categories, i.e., "moderate" and "High" level of adherence was labelled as "adequate" while "low" adherence level was labelled as "inadequate" adherence to lifestyle behavior.

Results: Of 369 postmenopausal women, adequate lifestyle behavior was observed in 183 (49.6%) women. Adequate lifestyle was 4.68 times significantly higher in <45 years of menopausal age women (aOR 4.68, 95% CI 1.66–13.18), 87% significantly lower among illiterate postmenopausal women (aOR 0.13, 95% CI 0.07–0.25), 96% significantly lower among postmenopausal women with ≤20,000 rupees of family income (aOR 0.04, 95% CI 0.01–0.42), 91% significantly lower among women with in-between 20,000–50,000 rupees family income (aOR 0.09, 95% CI 0.07–1.54), while 56% significantly lower among illiterate husbands of postmenopausal women (aOR 0.44, 95% CI 0.25–0.78).

Conclusion: There is a need to work on the health promoting behavior of the postmenopausal women with particularly targeting illiterate menopausal women with low socioeconomic status.

Keywords: Health Promoting Lifestyle Profile II, Lifestyle Behaviors, Menopause, Postmenopausal Women.

INTRODUCTION

Menopause is a natural period of modification in which the reproductive ability of women ends, occurring in late forties or in early fifties.[1] The average age of menopause is 51 years ranging from 45 to 54 years.[2] As a major milestone in women, menopause leads to a biological state accompanied by physical and psychological fluctuations.[3] Subsequently the post-menopausal women experience vasomotor symptoms such as flushes and night sweat, sleep disturbance, depression, anxiety, cognitive decline and cardiovascular disorders.[4] Moreover the symptoms may also involve urological disorders, sexual dysfunction, mood disorders, weight gain, and joint and muscles aches.[5] Additionally, studies reported that physiological problems experienced during menopause increases the risk for psychological problems among women in Pakistan.[6]

Quality of life is a phenomenon that is extensively affected by the individuals physical health, psychological state, level of independence, social interactions, personal beliefs along with connection of their environment.[7] Therefore the vast arrays of menopausal variations deteriorate the wellbeing of women and consequently have adverse impact on the quality of life, sleep and work productivity of postmenopausal women.[8] So, it is very important that these individuals gain healthy lifestyle behaviours.[9] Quality of healthy life promoting measures have been proven to be effective such as physical activity leads to decreased vasomotor symptoms and musculoskeletal pain along with improved psychosomatic well-being by enhancing self-esteem and quality of sleep.[10]

An emerging body of evidences had demonstrated limited awareness among women regarding

menopause and its management in Pakistan and stressed the importance of educational programs.[11] There is a need to identify level of adherence to health promoting behaviors among menopausal women for designing effective educational programs and culturally focused, preventive and controlled strategies. Hence, the objective of the current study is to assess the level of adherence to health promoting behaviors among postmenopausal women visiting Basic Health Units in Abbottabad, Khyber Pakhtunkhwa (KPK).

METHODS

A cross-sectional study design was used to conduct this study from May to December 2019 after obtaining approval (DIR/KMU-AS&RB/IB/00073) from the Advanced Research and Studies Board (AS & RB) of Khyber Medical University (KMU) Peshawar. The study population consisted of the postmenopausal women visiting Basic Health Units in the Abbottabad District. Those women whose menstruation cycle had stopped minimum 12 months ago, were included in the study. However, who had surgical and chemotherapeutic interventions were excluded from study. Convenience sampling technique was employed for selection of total participants of 369. The sample size was calculated by World Health Organization (WHO) software Epi-Info version 7, taking into considering the confidence Interval 95%, absolute precision 5% while prevalence of menopausal women was considered 40%.[12]

Data were collected from the participants through an adopted questionnaire of Health-Promoting Lifestyle Profile II [HPLP II] (Adult Version) [13] after properly explaining purpose of study and signing the consent form. Furthermore, confidentiality of all the information was ensured to the participants.

Questionnaire consisted of 52 questions divided into 6 subscales of Health Responsibility (9 items), Physical Activity (8 items), Nutrition (9 items), Spiritual Growth (9 items), Interpersonal Relationships (9 items), and Stress Management (8 items). The healthy behaviors of these subscales play an important role in maintaining a healthy lifestyle in all phases of human life. Healthy behavior depends on positive adaptation to all the components of these scales by the postmenopausal women. Answers, provided a Likert-scale format, were displayed as never =1, sometimes = 2, often = 3 and routinely = 4. Overall score of the scale ranges from 52 to 208, while there is a separate score for each domain. The highest score means better adherence to health promoting behaviors. So score 52 to 103 means low level of adherence to health promoting lifestyle, 104 to

155 means moderate level of adherence, and 156 to 208 means high level of adherence.[13] Level of adherence was further categorized into two categories, i.e., "moderate" and "High" level of adherence was labelled as "adequate" while "low" adherence level was labelled as "inadequate" adherence to lifestyle behavior.

Data were entered and analyzed by using version 26.0 of Statistical Package of Social Sciences (SPSS) software. Mean ± SD were computed for quantitative variables like age and weight while frequency and percentages were computed for categorical variables like, residence, marital status, education, and economic status. Mean difference of all quantitative variables were explored in between six subscales of lifestyle behaviors among postmenopausal women with demographic characteristics by independent t-test and One-way ANOVA. Moreover, comparison was done to see the effect of adequate lifestyle behavior with demographic characteristics. Chi-square/Fisher exact test was applied. The p-value of ≤ 0.05 was considered statistically significant. All those variables found significant in contingency table were included in binary logistic regression analysis. Both univariate and multivariate logistic regression was applied.

RESULTS

Of 369 postmenopausal women, the mean age was 57±7.53 years and weight was 69±11.41 kg, respectively. The mean score of participants' health promoting lifestyle behaviors was 108.07±23.02, ranging from 68 to 169. Majority of the participants experienced menopause in the age between 45 to 50 years 175 (47.4%). Most of the women were illiterate 243 (65.9%). Housewives were 298 (80.8%) and 44 (11.9%) fall into the category of unemployed and retired. Most of the women had monthly income of ≤ 20,000 PKR 236 (64%), 114 (30.9%) had in between 20,000- 50.000 while 19 (5.1%) had income of more than 50,000 PKR. The residence of 176 (47.7%) were urban while 193 (52.3%) were from rural areas.

The frequency of adequate lifestyle behavior was observed in 183 (49.6%) postmenopausal women. Adequate lifestyle behavior was found significantly higher among postmenopausal women with <45 years of menopausal age 90 (58.4%) as compared to 45 - 50 years of menopausal age 87 (49.7%) and > 50 years of menopausal age 6 (15.0%) (p-value <0.001). Significant associations between adequate lifestyle behavior of postmenopausal women with marital status (p-value <0.001), education (p-value <0.001), employment

Table 1: Comparison of adherence to lifestyle behavior with demographic characteristics (n=369)

	Adequate lifestyle behavior		
	Yes **(n=183)**	**No** **(n=186)**	**p-value**
Menopausal Age			
< 45	90 (58.4)	64 (41.6)	<0.001^*
45-50	87 (49.7)	88 (50.3)	
>50	6 (15.0)	34 (85)	
Residence			
Urban	93 (52.8)	83 (47.2)	0.233^
Rural	90 (46.6)	103 (54.4)	
Marital Status			
Single^$	38 (33.6)	75 (66.4)	<0.001^*
Married	145 (56.6)	111 (43.3)	
Education Status			
Illiterate¯	76 (31.3)	167 (68.7)	<0.001^*
Literate	107 (84.9)	19 (15.1)	
Spouse Education			
Illiterate¯	37 (26.1)	105 (73.9)	<0.001^*
literate	146 (64.3)	81 (35.7)	
Employment			
Housewives	127 (42.6)	171 (57.4)	<0.001^*
Unemployed & retired	34 (77.3)	10 (22.7)	
Employed	22 (81.5)	5 (18.5)	
Economic Status			
≤ 20,000 PKR	91 (38.6)	145 (61.4)	<0.001^*
20,000-50,000 PKR	74 (64.9)	40 (35.1)	
>50,000 PKR	18 (94.7)	1 (5.3)	
Family Structure			
Nuclear	95 (45)	116 (55.0)	0.042^*
Joint Family	88 (55.7)	70 (44.3)	
Post-menopausal age			
One year	8 (47.1)	9 (52.9)	0.831^
More than one year	175 (49.7)	177 (50.3)	

^$ Single included: Divorced, Widowed, and Unmarried postmenopausal women, ¯Illiterate means unable to read and write

^Chi-Square test applied, *p-value ≤ 0.05 considered significant

(p-value <0.001), economic status (p-value <0.001), spouse education (p-value <0.001), and family structure (p-value 0.042) were obtained. (Table 1)

Univariate and multivariable logistic regression analyses were shown in the table 2. Variables exhibited significant p-values in univariate analysis were carried out for the multivariable logistic regression analysis. The findings of multivariable analysis showed that after adjusting for other covariates, adequate lifestyle among postmenopausal women with <45 years of menopausal age were 4.68 folds higher as compared to postmenopausal women with >50 years of menopausal age (aOR 4.68, 95% CI 1.66 – 13.18). Similarly, likelihood

of adequate lifestyle were 5.60 times significantly higher among postmenopausal women with 45 - 50 years of menopausal age as compared to >50 years of menopausal age (aOR 5.60, 95% CI 2.23 – 14.01). The likelihood of adequate lifestyle behavior was 87% significantly lower among illiterate postmenopausal women as compared to literate postmenopausal women (aOR 0.13, 95% CI 0.07 – 0.25). The risk of adequate lifestyle behavior was 95% significantly lower among postmenopausal women with ≤ 20,000 PKR of family income as compared to > 50,000 PKR of family income (aOR 0.04, 95% CI 0.01 – 0.42). Similarly, the likelihood of adequate lifestyle behavior was 91%

Table 2: Binary logistic regression analysis for variables predicting adequate lifestyle behavior in postmenopausal women

	Univariate analysis		Multivariate analysis	
	OR (95% CI)	p-value	aOR (95% CI)	p-value
Menopausal Age, years				
< 45	7.96 (3.15 – 20.09)	<0.001	4.68 (1.66 – 13.18)	0.003
45-50	5.60 (2.23 – 14.01)	<0.001	2.61 (0.93 – 7.28)	0.068
>50	1		1	
Residence				
Urban	1.28 (0.85 – 1.93)	0.234		
Rural	1			
Marital Status				
Single$^$	0.38 (0.24 – 0.61)	<0.001	0.56 (0.31 – 1.01)	0.056
Married	1		1	
Education				
Illiterate˜	0.08 (0.04 – 0.14)	<0.001	0.13 (0.07 – 0.25)	<0.001
Literate	1		1	
Spouse Education				
Illiterate˜	0.19 (0.12 – 0.31)	<0.001	0.44 (0.25 – 0.78)	0.005
literate	1		1	
Employment				
Housewives	0.16 (0.06 – 0.45)	<0.001	0.30 (0.08 – 1.06)	0.062
Unemployed & retired	0.77 (0.23 – 2.56)	0.674	0.34 (0.07 – 1.54)	0.162
Employed	1		1	
Economic Status				
≤ 20,000 PKR	0.03 (0.01 – 0.26)	<0.001	0.046 (0.01 – 0.42)	0.007
20,000-50,000 PKR	0.10 (0.01 – 0.79)	0.030	0.09 (0.01 – 0.85)	0.036
>50,000 PKR	1		1	
Family Structure				
Nuclear	0.65 (0.43 – 0.98)	0.043	0.84 (0.49 – 1.45)	0.543
Joint Family	1			
Post-menopausal age				
One year	0.89 (0.33 – 2.38)	0.831		
More than one year	1			

$^$Single included: Divorced, Widowed, and Unmarried postmenopausal women, ˜Illiterate means unable to read and write
OR: odds ratio, aOR: adjusted odds ratio, CI: confidence interval

significantly lower among postmenopausal women with 20,000 – 50,000 PKR of family income as compared to > 50,000 PKR of family income (aOR 0.09, 95% CI 0.07 – 1.54). The adequate lifestyle behavior was 16% less likely among illiterate husbands of postmenopausal women as compared to literate husbands of postmenopausal women (aOR 0.44, 95% CI 0.25 – 0.78). (Table 2)
Mean comparison of six subscales (Health responsibility, physical activity, nutrition, spiritual growth, interpersonal relation, and stress management) of lifestyle behaviors among postmenopausal women showed significant mean difference with menopausal age, marital status,

education, economic status, and spouse education (p-value <0.001). (Table 3)

DISCUSSION

This study was conducted to assess the lifestyle of postmenopausal women in Abbottabad. The changes in health status of women negatively affect the lifestyle of many when they do not adopt positive behaviors in the post menopause. In the present study half of the participants reported adequate lifestyle behaviours after cessation of reproductive ability. Various factors were found to be associated with low adherence to healthy lifestyle.

Table 3a: Mean comparison of six subscales of lifestyle behaviors among postmenopausal women with demographic characteristics (n=369)

	Total	Health responsibility		Physical activity		Nutrition	
		Mean ± SD	p-value	Mean ± SD	p-value	Mean ± SD	p-value
Menopausal Age							
< 45	154	18.4 ± 4.67		12.7 ± 4.40		17.5 ± 3.95	
45-50	175	18.1 ± 5.03	0.024˜*	12.5 ± 4.63	0.129˜	17.3 ± 4.27	0.008˜*
>50	40	16.2 ± 3.63		11.1 ± 4.20		15.4 ± 2.41	
Marital Status							
Single$	113	16.7 ± 4.32	<0.001^*	11.6 ± 4.35	0.027^*	16.4 ± 4.22	0.014^*
Married	256	18.6 ± 4.87		12.8 ± 4.54		17.6 ± 3.88	
Education							
Illiterate	243	16.5 ± 4.08	<0.001^*	11.4 ± 4.20	<0.001^*	16.0 ± 3.47	<0.001^*
Literate	126	21.0 ± 4.72		14.4 ± 4.39		19.5 ± 4.01	
Spouse Education							
Illiterate	142	16.0 ± 3.43	<0.001^*	11.0 ± 3.72	<0.001^*	15.9 ± 3.13	<0.001^*
literate	227	19.4 ± 5.05		13.3 ± 4.73		18.0 ± 4.28	
Economic Status							
≤ 20,000 PKR	236	16.6 ± 3.97		11.7 ± 4.15		16.6 ± 3.89	
20,000-50,000 PKR	114	20.2 ± 5.05	<0.001˜*	13.2 ± 4.51	<0.001˜*	18.0 ± 3.94	<0.001˜*
>50,000 PKR	19	23.3 ± 4.11		17.2 ± 5.14		20.7 ± 3.61	

$Divorced, Widowed, and unmarried postmenopausal women

^Independent T-test and ~One-way ANOVA test applied, *p-value ≤ 0.05 considered significant

The mean score of health promoting lifestyle behaviours shown by our participants, fall into moderate range. These findings are consistent with the result as shown in Iranian study indicating moderate range.[13] Furthermore, only half of the participants had reported adequate lifestyle behaviours. The prior researchers have concluded that the poor quality of lifestyle increases the burden on the healthcare system of Pakistan.[14] Most of the participants in this study were lacking formal education which lead to deficient information. This lack of information to cope with modified health may be the important of poor quality of lifestyle. Previously the researches had also identified that negative perception of menopause, lack of health care knowledge, personal motivation, family support and exercise were the reasons for negligence of health among postmenopausal women.[15] Similarly researchers have also affirmed that lack of knowledge potentially contribute to ineffectively manage the menopausal symptoms leading to distress and helplessness.[16]

Majority of participants in the current study reported menopausal age between 45 to 50 years which is consistent with the previous studies conducted in Nepal, Iran and Saudi Arabia. In contradiction to the present study, the mean age of menopause is 51.3 years in Europe and 52.5 in America.[19] Ethnicity, nutritional state, physical health and availability of healthcare facilities may be responsible for this contradiction.

The finding of current study noted that demographic variables of menopausal age, marital status, education, employment, economic status, and spouse education had significant association with the level of adherence to health promoting behaviors. Likewise, previously a positive correlation has been established between quality of life and the demographic characteristics of monthly income, educational level of participants, educational level of spouses,[7] marital status and employment.[20] Those who are employed and having high income provide better opportunities of access to health care system.[21] They may have increased chances of socialization with colleagues and can therefore discuss their problems for better health.

Additionally the prior study has documented that patients from poorer socioeconomic background report fewer side effects and are less likely to request

Table 3b: Mean comparison of six subscales of lifestyle behaviors among postmenopausal women with demographic characteristics (n=369)

	Total	Spiritual growth		Interpersonal relation		Stress management	
		Mean ± SD	p-value	Mean ± SD	p-value	Mean ± SD	p-value
Menopausal Age, years							
< 45	154	21.0 ± 4.94		22.0 ± 4.20		18.4 ± 3.70	
45-50	175	20.9 ± 5.61	0.002~*	21.7 ± 5.10	0.001~*	18.1 ± 4.12	<0.001~*
>50	40	17.9 ± 3.68		19.0 ± 3.79		15.5 ± 2.51	
Marital Status							
Single[§]	113	18.7 ± 4.43	<0.001^*	19.7 ± 3.98	<0.001^*	16.8 ± 3.58	<0.001^*
Married	256	21.5 ± 5.34		22.3 ± 4.76		18.4 ± 3.92	
Education							
Illiterate	243	18.9 ± 4.55	<0.001^*	19.8 ± 4.03	<0.001^*	16.9 ± 3.52	<0.001^*
Literate	126	24.0 ± 4.84		24.9 ± 4.01		19.9 ± 3.81	
Spouse Education							
Illiterate	142	18.6 ± 4.02	<0.001^*	19.6 ± 3.56	<0.001^*	16.3 ± 3.03	<0.001^*
literate	227	21.9 ± 5.52		22.7 ± 4.92		18.9 ± 4.05	
Economic Status							
≤ 20,000 PKR	236	19.2 ± 4.48		20.3 ± 4.09		16.9 ± 3.42	
20,000-50,000 PKR	114	22.9 ± 5.42	<0.001~*	23.3 ± 4.86	<0.001~*	19.3 ± 4.12	<0.001~*
>50,000 PKR	19	26.1 ± 4.65		26.5 ± 4.19		21.8 ± 3.28	

§ Divorced, Widowed, and unmarried postmenopausal women
^Independent T-test and ~One-way ANOVA test applied, *p-value ≤ 0.05 considered significant

additional support from the healthcare professionals.[16] The previous study also documented poor health responsibility and reduced physical activity among those participants who had low level of education.[14] Therefore the participants in the current study needs appropriate educational programs regarding the management of post-menopausal changes.

Mean comparison of six subscales of lifestyle behaviors among postmenopausal women showed significant mean difference with menopausal age, marital status, education, economic status, and spouse education. Low score of mean for physical activity was identified in having menopausal of more than 50, single, illiterate and those whose monthly income is less than twenty thousand. The previous researchers identified the lowest score for physical activity and highest score for interpersonal relationships.[9,14] Similar finding of lowest mean score for physical activity was also reported in another study but the highest was awarded to spiritual growth.[22] Some women who have low physical activity undergo emotional disturbance which can negatively impact their quality of life. Some women have experienced psychological benefit from moderate exercises of improved quality of life.[23]

The findings of the current study may prove to be the basis for educational programs regarding awareness among postmenopausal women healthcare professionals. As the current study was conducted in one district so this may limit generalization to the whole country. Larger interventional studies are needed to formulate appropriate interventions for awareness programs among postmenopausal women in Pakistan.

CONCLUSION

Findings of the current study reported adequate life style behaviors among half of the postmenopausal women. Additionally, the sociodemographic characteristics impact the life style behaviours. These women are at greater risk of developing physiological and psychological disorders which may place a huge burden on our healthcare system. There is a need to organize awareness programs on the changes of menopause and the importance of adopting a healthy lifestyle.

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