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Correlation Between Menopausal Symptoms and Quality of Life in Post-Menopausal Women

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ABSTRACT

Lack of public awareness calls for this research, as women's post-menopausal health and quality of life are neglected in Pakistan. **Objective:** To find the relation between Quality of Life (QoL) and Menopausal Symptoms in postmenopausal women. **Methods:** A cross-sectional study was conducted for six months. Post-menopausal women were considered based on non-probability convenience sampling, and 267 of them were recruited. In this study, the age range was 45 to 85 years. Outcome measure tools included are the Menopausal Rating Scale (MRS) and Short Form 36 (SF-36). The data collected were entered into SPSS version 23.0 for analysis. **Results:** This study used Pearson's Test because the data were parametric, based on a p-value more than 0.05, according to the Kolmogorov-Smirnov test. The majority of the women, i.e. 165 (61.8%), were working. Results showed that the QoL diminishes as the severity of post-menopausal symptoms increases. Key findings included that out of all nine domains of Short-Form-36, Physical Functioning was vastly affected, with a percentage mean of 69.42% altogether. **Conclusions:** A negative relation came into view between the QoL and post-menopausal symptoms. It entails that with increasing severity of post-menopausal symptoms, QoL deteriorates.

INTRODUCTION

A non-pathologic routine a woman lives after the cessation of menses is called the menopause. It is a normal aging process in women. The age-related estrogen deficiency is completely normal and non-pathological. This deficiency leads to the stoppage of periods. The median age at which women face this transition is 51 years old. Although the menopausal symptoms that come along can be very painful and unpleasant, it is not considered a disease, and maybe for this reason, not a lot of awareness is brought to it. And therefore, fewer interventions are encouraged. The conclusion of menstruation starts with diminished ovarian follicles, associated with ageing, low levels of estradiol and inhibin, causing suppressive effects on gonadotropin production. There are spiked levels of Luteinizing Hormone and Follicle Stimulating Hormone. There is a decline in Estrogen production and ultimately, menstruation ceases. [1]. The severity of the symptoms might vary in women; some face troubling symptoms while others do not get any bothersome symptoms at all. Severe reduction in hormone production may cause symptoms of menopause to linger in the post-menopausal stage. These symptoms include hot flashes, sweating at night, dry vagina, and discomfort

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during intercourse. Others include skin dryness, hair loss, weight variation, sleeplessness, mental stress, changes in sex drive and urinary incontinence [1, 2]. Quality of life (QoL) is the subjective measure of a person's satisfaction with their life experiences. It measures subjective happiness, social and personal satisfaction, security and safety; it encompasses crucial domains such as physical mobility, mental well-being, social relationships, and environment [3]. Over 300 women of various ethnicities were studied in the Study of Women's Health Across the Nation (SWAN). It was found that the symptoms seem to cause distress during menopause as well, and these symptoms have caused lower QoL [4]. Genetic factors impact vasomotor symptoms, including a rise in night sweating and hot flashes, and these gene-guided influences may vary across racial and ethnic groups [5]. Some women, in their post-menopausal era, gripe about chest discomfort and palpitations; although palpitations are usually harmless, the incidence of cardiovascular diseases increases [6]. It is crucial to note that hormonal changes during menopause can impact mental health, making women vulnerable to depression and anxiety [7]. A symptom of menopause that not many women are comfortable talking about is low sex drive. They are not as easily aroused; furthermore, lower levels of estrogen and androgen result in uncomfortable intercourse due to lack of lubrication, minimal desire, etc. [8]. Furthermore, menopause can disturb sleep patterns, leading to insomnia [9]. Insomnia can reduce quality of life significantly. In 2019, Enrica Bonanni, with team members, suggested that hot flashes caused insomnia, which again increased the occurrences of depression [10]. Additionally, it was found that there is a substantial correlation between osteoporosis and Health Related Quality of Life (HRQoL) in the 60-year-old and above age group in women of Korea [11]. More than 50% of post-menopausal women are reported to have urinary incontinence. This leads women towards a more sedentary lifestyle with little time for physical activity and a lack of intimacy. This consequently results in overall compromised performance of the body, the musculoskeletal fitness decreases, respiratory disorders become inevitable, and increased circulatory problems come forward as well [12]. The preceding studies on postmenopausal symptoms and their effect on quality of life have not considered women from Pakistan, leaving a gap in comprehension of menopausal symptoms and how they influence QoL across women in Pakistan. Furthermore, women's health has been largely neglected in Pakistan, and this compels the need for the current study. Unlike previous studies, this particular study also includes widows and sexually inactive women to study whether symptoms vary.

This study aimed to find the association between menopausal symptoms, their severity, and how they influence quality of life in post-menopausal women.

METHODS

This was an analytical cross-sectional study, with a non-probability convenience sampling technique. The ethical review board based at a medical college in Lahore approved this study, and the IRB number of this study was Case#,713/ERC/CMH/LMC. The study was completed for six months 01-05-2023 to 31-10-2023. Before recruiting any participant, a formal written consent was taken from all the study participants. Two hundred and sixty-five women were selected to participate in this study. This sample size was calculated using the Cochran formula and by putting the estimated prevalence rate of 0.514 based on a previous study [13] and a confidence level of 0.95. This study recruited women aged 45 to 85 years, with the presence or absence of one or more conditions of osteoporosis, hypertension, and/or diabetes after menopause. Patients with diagnosed depression or anxiety, neuromuscular issues and any physical disability were excluded based on the self-report of participants. After selection of the sample, these women were asked to fill out the Menopause Rating Scale (MRS) and Short Form 36 (SF-36) questionnaires. MRS consists of 11 questions regarding the menopausal symptoms with a severity ranging from 0-4. The total score adds up to 44. The score is divided into no/little complaints (0-4), mild (5-8), moderate (9-15), and severe (>16). The higher the score of MRS was, the higher the severity of the symptoms was [14]. SF-36 was a questionnaire to determine quality of life (QoL), including both mental and physical aspects. Its domains cover all physical, emotional, general, social, and psychological health. The maximum score was 100, which entails better health conditions, whereas a minimum score of 0 means diminished health status [15]. It has high reliability, and its Cronbach's alpha stands at 0.791 [16]. MRS was also a reliable tool with Cronbach's alpha = 0.904 [17]. Participants were asked to fill out both questionnaires. Then, the data gathered through these questionnaires underwent statistical analysis. Using the Kolmogorov-Smirnov Test, it was determined that the data were parametric in nature as $p>0.05$ for all the variables; and for correlation analysis, Pearson correlation test, i.e. a parametric test was utilized.

RESULTS

Statistical analysis provided a negative Pearson's correlation and a p-value of <0.001 between QoL and post-menopausal symptoms. It depicts that the QoL worsens as the severity of post-menopausal symptoms increases (Table 1).

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Table 1: Descriptive Stats of Study Population

Variables		Frequency (%) / Mean ± SD
Age	Mean ± SD	51.50 ± 5.5
Menopause Rating Scale (MRS)	Total Score	14.42 ± 7.86
Reproductive Hx	Present	237 (88.8%)
	Absent	30 (11.2%)
Occupation	Housewife	165 (61.8%)
	Working	102 (38.2%)

The study shows physical functioning is mostly affected in post-menopausal women out of all nine domains of SF-36, representing different aspects of quality of life (Table 2).

Table 2: Percentage Means and Standard Deviations of SF-36 Domains of Study Population

SF-36 Domains	Mean ± SD
Physical Functioning	69.42 ± 21.15
Role Limitations due to Physical Health	66.67 ± 33.14
Role Limitations due to Emotional Problems	57.21 ± 37.34
Energy/Fatigue	50.82 ± 21.35
Emotional Wellbeing	56.99 ± 19.96
Social Functioning	59.20 ± 22.49
Pain	69.43 ± 25.19
General Health*	55.77 ± 29.67
Health Changes	60.68 ± 30.32

Results demonstrate that a negative correlation exists between QoL and menopausal symptoms, with $p<0.05$. Weak correlation of severity of menopausal symptoms exists with role limitations based on physical and emotional health; general health and overall well-being of participants, with $r<0.4$. Moreover, moderate correlations were found between increasing intensity of post-menopause-oriented symptoms and other remaining domains of QoL, such as physical functioning, energy reserves, pain levels, and emotional and social health dimensions (Table 3).

Table 3: Pearson Correlation Coefficient and p-value between QoL Domains and Menopausal Symptoms

SF-36 Domains	Pearson Correlation Coefficient	p-Value	95% CI Width
Physical Functioning	-0.484	<0.001*	0.185
Role Limitations due to Physical Health	-0.281	<0.001*	0.222
Role Limitations due to Emotional Problems	-0.221	<0.001*	0.230
Energy/Fatigue	-0.531	<0.001*	0.173
Emotional Wellbeing	-0.498	<0.001*	0.181
Social Functioning	-0.539	<0.001*	0.171
Pain	-0.504	<0.001*	0.181
General Health	-0.382	<0.001*	0.206
Health Changes	-0.289	<0.001*	0.221

Findings demonstrate the frequency distribution of menopausal symptoms among the sample population. Hot flashes, irritability and physical and mental exhaustion are among the most prevalent symptoms. Minimal changes in sexual health symptoms were observed among the participants (Table 4).

Table 4: Menopausal Symptoms and Frequency Distribution among Study Population

Variables	Frequency (%)
Hot Flashes	
None	29 (10.9%)
Mild	77 (28.8%)
Moderate	105 (39.3%)
Severe	46 (17.2%)
Extremely severe	10 (3.7%)
Heart Discomfort	
None	134 (50.2%)
Mild	67 (25.1%)
Moderate	47 (17.6%)
Severe	17 (6.4%)
Extremely severe	2 (0.7%)
Sleep Problems	
None	98 (36.7%)
Mild	65 (24.3%)
Moderate	79 (29.6%)
Severe	21 (7.9%)
Extremely Severe	4 (1.5%)
Depressive Mood	
None	49 (18.4%)
Mild	86 (32.2%)
Moderate	91 (34.1%)
Severe	41 (15.4%)
Extremely Severe	0 (0%)
Irritability	
None	30 (11.2%)
Mild	81 (30.3%)
Moderate	108 (40.4%)
Severe	41 (15.4%)
Extremely Severe	7 (2.6%)
Anxiety	
None	69 (25.8%)
Mild	77 (28.8%)
Moderate	68 (25.5%)
Severe	46 (17.2%)
Extremely Severe	7 (2.6%)
Physical and Mental Exhaustion	
None	29 (10.9%)
Mild	67 (25.1%)
Moderate	117 (43.8)
Severe	48 (18%)
Extremely Severe	6 (2.2%)
Changes in Sexual Health	
None	186 (69.7%)
Mild	46 (70.2%)
Moderate	26 (9.7%)

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Severe	6 (2.2%)
Extremely Severe	3 (1.1%)
Bladder Problems	
None	125 (46.8%)
Mild	90 (33.7%)
Moderate	32 (12%)
Severe	17 (6.4%)
Extremely Severe	3 (1.1%)
Dryness of Vagina	
None	135 (50.6%)
Mild	92 (34.5%)
Moderate	21 (7.9%)
Severe	19 (7.1%)
Extremely Severe	0 (0%)
Joint and Muscular Discomfort	
None	63 (23.6%)
Mild	60 (22.5%)
Moderate	85 (31.8%)
Severe	30 (11.2%)
Extremely Severe	29 (10.9%)

DISCUSSION

The current research aimed to find the relation between the post-menopausal symptoms and QoL. The symptoms of menopause, especially post-menopause, get severe as women age, and it has a drastic effect on their QoL. To depict this relation, the causes and factors behind it, and to find the most affected body system during post-menopause, this study was completed. According to the present study, the post-menopausal symptoms had a negative relation with the quality of life, i.e. the quality of life diminished with the increasing severity of post-menopausal symptoms, with $p<0.05$ against all domains of Short Form 36 (SF-36). The SF-36 domains that are greatly influenced by the severity of post-menopausal symptoms include physical functioning and pain. Rathnayake *et al.* through Menopause Rating Scale (MRS) and Short Form 36 (SF-36), deduced a negative correlation between the post-menopausal symptoms and quality of life, with a p-value of <0.001. The SF-36 domains of physical activities, role performance, comfort, and physical health have a p-value of less than 0.001, just like the present study. Additionally, they concluded that other domains, such as role performance, energy levels, emotional health, social function, general health, and psychological well-being, had p-values greater than 0.05; hence, it is not in alignment with the present study. This can be due to the difference in anthropometric measurements and/or social factors of the women life of the sample of the previous study and the current study [18]. A study conducted by Ngai, supports the findings of the current study. With the help of the MRS scale and Medical Outcomes Study Short-Form-36, the study proved the negative correlation between post-menopausal symptoms and functional and mental quality of life, showing a p-value of <0.001, like the present study. This study also researched the Sense of Coherence and various types of Coping Techniques the women were undergoing, for instance, problem-oriented coping, emotion-based coping, adaptive coping, and maladaptive coping. Use of these coping strategies must have helped women in improving emotional, behavioural, and social symptoms, which can be the reason for the severity of physical symptoms, which, hence, produced similar results as the present study [15]. In the present study, the domain of physical functioning presented the highest mean of 69.42 out of all SF-36 health domains. El Hajj *et al.* investigated the relation between the menopausal symptoms and quality of life in Lebanese women. Using the Menopause-Specific Quality of Life Questionnaire (MENQOL) and the International Physical Activity Questionnaire, the study found that the menopausal symptoms affected the general health of the menopausal women. In post- and peri menopausal women, the musculoskeletal system was vastly affected among all other systems, with the highest mean of 3.2, which supports the findings of the present study. Contrarily, El Hajj *et al.* say that if looked at exclusively in post-menopausal women, sexual health is mostly affected, whereas the present study states that the functional activity is mostly deteriorated in post-menopausal women. The inclusion criteria used in the present study are 45-85 years and include widows and some sexually inactive women, so the main reported issues were relevant to musculoskeletal health. On the other hand, El Hajj *et al.* included women aged 40-60 years, most of whom were sexually active. These women were educated and conscious about their health, none of which were considered in the present study [19]. Contrary to the current study, Barati *et al.* use the Menopausal QoL Questionnaire (MENQOL) to state that the widely prevalent symptoms are vasomotor, scoring a mean ± SD of 3.46 ± 2.40, while the physical-related symptoms fall below with a mean ± SD of 2.36 ± 2.41. The present study included women aged between 45 to 85 years, whereas Barati *et al.* included women of ages between 45 to 60 years [20]. The difference in ages of women included in the sample can again be the cause of the difference in the findings of the studies, since skeletal structure deterioration is a normal process during ageing, and the present study includes a sufficient number of older women [21]. Analogous with the present research, Smail *et al.* prove that the musculoskeletal system is mostly deteriorated in post-menopausal women. As per the MENQOL, the study showed that the symptom which was most common in postmenopausal women was myalgia and arthralgia, with a percentage of 78.6%, and pain in the back with a percentage of 75.7%, both of which determine physical functioning. The similarity in the results can be

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due to the same culture and ethnicity of Emirati and Pakistani women [22]. This study projects that women face multiple challenges to their physical health, psychological health and overall well-being during post menopause phase of their lives.

CONCLUSIONS

It was concluded that the negative correlation exists between the quality of life (QoL) and symptoms of post-menopause, stating that menopause hurts all physical, vasomotor, mental, and sexual function in women.

Authors Contribution

Conceptualization: DS, SM
Methodology: DS, SKZZ, SM, AM, NF
Formal analysis: YS
Writing review and editing: SKZZ, SM, YS

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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REFERENCES

[1] Peacock K, Carlson K, Ketvertis KM, Doerr C. Menopause (Nursing). Stat Pearls [Internet]. 2023 Dec.

[2] Monteleone P, Mascagni G, Giannini A, Genazzani AR, Simoncini T. Symptoms of Menopause Global Prevalence, Physiology and Implications. Nature Reviews Endocrinology. 2018 Apr; 14(4): 199-215. doi: 10.1038/nrendo.2017.180.

[3] Haraldstad K, Wahl A, Andenæs R, Andersen JR, Andersen MH, Beisland E *et al.* A Systematic Review of Quality of Life Research in Medicine and Health Sciences. Quality of life Research. 2019 Oct; 28(10): 2641-50. doi: 10.1007/s11136-019-02214-9.

[4] Avis NE, Ory M, Matthews KA, Schocken M, Bromberger J, Colvin A. Health-Related Quality of Life in A Multiethnic Sample of Middle-Aged Women: Study of Women's Health Across the Nation (SWAN). Medical Care. 2003 Nov; 41(11): 1262-76. doi: 10.1097/01.MLR.0000093479.39115.AF.

[5] Zhao W, Smith JA, Yu M, Crandall CJ, Thurston RC, Hood MM *et al*. Genetic Variants Predictive of Reproductive Aging Are Associated with Vasomotor Symptoms in A Multiracial/Ethnic Cohort. Menopause. 2021 Aug; 28(8): 883-92. doi: 10.1097/GME.0000000000001785.

[6] Ryczkowska K, Adach W, Janikowski K, Banach M, Bielecka-Dabrowa A. Menopause and Women's Cardiovascular Health: Is It Really an Obvious Relationship? Archives of Medical Science. 2022 Dec; 19(2): 458. doi: 10.5114/aoms/157308.

[7] Alblooshi S, Taylor M, Gill N. Does Menopause Elevate the Risk for Developing Depression and Anxiety? Results from A Systematic Review. Australasian Psychiatry. 2023 Apr; 31(2): 165-73. doi: 10.1177/10398562231165439.

[8] Scavello I, Maseroli E, Di Stasi V, Vignozzi L. Sexual Health in Menopause. Medicina. 2019 Sep; 55(9): 559. doi: 10.3390/medicina55090559.

[9] Zolfaghari S, Yao C, Thompson C, Gosselin N, Desautels A, Dang-Vu TT *et al.* Effects of Menopause on Sleep Quality and Sleep Disorders: Canadian Longitudinal Study on Aging. Menopause. 2020 Mar; 27(3): 295-304. doi: 10.1097/GME.0000000000001462.

[10] Bonanni E, Schirru A, Di Perri MC, Bonuccelli U, Maestri M. Insomnia and Hot Flashes. Maturitas. 2019 Aug; 126: 51-4. doi: 10.1016/j.maturitas.2019.05.001.

[11] Park H. The Impact of Osteoporosis on Health-Related Quality of Life in Elderly Women. Biomedical Research. 2018 Sep; 29(16): 3223-7. doi: 10.4066/biomedicalresearch.29-18-941.

[12] Kołodyńska G, Zalewski M, Rożek-Piechura K. Urinary Incontinence in Postmenopausal Women–Causes, Symptoms, Treatment. Menopause Review/Przegląd Menopauzalny. 2019 Apr; 18(1): 46-50. doi: 10.5114/pm.2019.84157.

[13] Senthilvel S, Vasudevan S, Anju PS, Sukumaran A, Sureshbabu J. Assessment of Symptoms and Quality of Life among Postmenopausal Women in A Tertiary Care Hospital in Kochi, South India: A Hospital-Based Descriptive Study. Journal of Mid-Life Health. 2018 Oct; 9(4): 185-90. doi: 10.4103/jmh.JMH_98_18.

[14] Heinemann LA, DoMinh T, Strelow F, Gerbsch S, Schnitker J, Schneider HP. The Menopause Rating Scale (MRS) as Outcome Measure for Hormone Treatment? A Validation Study. Health and Quality of Life Outcomes. 2004 Nov; 2(1): 67. doi: 10.1186/1477-7525-2-67.

[15] Ngai FW. Relationships Between Menopausal Symptoms, Sense of Coherence, Coping Strategies, and Quality of Life. Menopause. 2019 Jul; 26(7): 758-64. doi: 10.1097/GME.0000000000001299.

[16] Zhang Y, Bo QU, Lun SS, Guo Y, Liu J. The 36-Item Short Form Health Survey: Reliability and Validity in Chinese Medical Students. International Journal of Medical Sciences. 2012 Aug; 9(7): 521. doi: 10.7150/ijms.4503.

[17] Mathialagan S, Ramasamy S, Nagandla K, Siew WF, Sreeramareddy CT. Menopause Rating Scale (MRS) in the Malay Language-Translation and Validation in A Multiethnic Population of Selangor, Malaysia. BioMed

DOI: https://doi.org/10.54393/pbmj.v8i7.1240

Central Women's Health. 2022 Aug; 22(1): 347. doi: 10.1186/s12905-022-01922-8.

[18] Rathnayake N, Lenora J, Alwis G, Lekamwasam S. Prevalence and Severity of Menopausal Symptoms and the Quality of Life in Middle-Aged Women: A Study from Sri Lanka. Nursing Research and Practice. 2019; 2019(1): 2081507. doi: 10.1155/2019/2081507.

[19] El Hajj A, Wardy N, Haidar S, Bourgi D, Haddad ME, Chammas DE *et al.* Menopausal Symptoms, Physical Activity Level and Quality of Life of Women Living in the Mediterranean Region. PIOS One. 2020 Mar; 15(3): e0230515. doi: 10.1371/journal.pone.0230515.

[20] Barati M, Akbari-Heidari H, Samadi-Yaghin E, Jenabi E, Jormand H, Kamyari N. The Factors Associated with the Quality of Life among Postmenopausal Women. BioMed Central Women's Health. 2021 May; 21(1): 208. doi: 10.1186/s12905-021-01361-x.

[21] Mi B, Xiong Y, Knoedler S, Alfertshofer M, Panayi AC, Wang H *et al.* Ageing-Related Bone and Immunity Changes: Insights into the Complex Interplay Between the Skeleton and the Immune System. Bone Research. 2024 Aug; 12(1): 42. doi: 10.1038/s41413-024-00346-4.

[22] Smail L, Jassim G, Shakil A. Menopause-Specific Quality of Life Among Emirati Women. International Journal of Environmental Research and Public Health. 2020 Jan; 17(1): 40. doi: 10.3390/ijerph17010040.