

Original Paper

Quality of Life and Its Relevant Factors in Menopausal Women



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ABSTRACT

Introduction: Menopause is an essential part of human life that affects women's Quality of Life (QoL).

Objective: This study investigated the QoL and some relevant factors in menopausal women.

Materials and Methods: This cross-sectional study was conducted on 45-60 years old menopausal women in 3 areas of Kashan city, Iran in 2018. By cluster sampling method, 236 participants were included in the study. The study questionnaires consist of demographic and obstetric information and Menopausal QoL (MENQoL). The Kolmogorov-Smirnov test, t test, the Pearson and Spearman correlation tests, as well as linear regression analysis, were used for data analysis.

Results: The Mean±SD age of the women was 52.65±3.67 years. Also, their Mean±SD for elapsed years since menopause was 2.89±1.53, and the Mean±SD for QoL was 31.24±11.47. There were no significant correlations between QoL and women's age, menopausal age, and elapsed years since menopause. Based on linear regression analysis, the variables of age (B=2.61, 95%CI; 0.46-4.77, P=0.02), menopausal age (B=-2.19, 95%CI; -4.39- -0.01, P=0.049), and satisfaction of spouse (B=-4.90, 95%CI; -8.45- -0.35, P=0.007) remained in the model as relegated variables to QoL score (R²=11.8%).

Conclusion: Since most women had moderate menopausal QoL score, intervention programs to improve the QoL for postmenopausal women is recommended in health centers. Further studies are suggested to evaluate the QoL in chronic diseases of postmenopausal women.

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Highlights

- Most of the studies showed menopausal women have an average quality of life.
- More elapsed years from menopause are associated with better quality of life.
- Women whose spouses have a higher education have better QOL.
- The variables of age, menopausal age, and marital satisfaction effectively improve the quality of life.

Plain Language Summary

Complications of menopause, such as hot flashes, night sweating, musculoskeletal pain, sleep problems, weight gain, and depreciation, decrease women's Quality of Life (QOL). In this study, menopausal QOL and some relevant factors in menopausal women are explored.

In our model, factors related to the QOL of postmenopausal women were older age, age of onset of menopause, years after menopause, spouse's education level, and spouse satisfaction. Older age was associated with worse quality of life. Women who started menopause at an older age, those who had been menopausal for more years, women whose husbands had higher levels of education, and those who were more satisfied with their husbands had a better quality of life. Other variables affect the quality of life that are not investigated in this study.

Introduction

According to the World Health Organization, Quality of Life (QOL) is "the individuals' perception of their positions in life in the context of the culture and value system in which they live and in relation to the expectations, standards, and concerns of the target" [1, 2]. Menopause occurs in women at an average age of 51 and is a milestone in their lives [3, 4]. The first five years after the final menstruation is called the beginning of menopause [5]. Some menopausal symptoms, such as hot flashes, are transient and often persist for 2 years after menopause [6]. Hot flashes and other complications of menopause such as night sweating, musculoskeletal pain, sleep problems, weight gain, and depreciation may decrease women's QOL [3, 4]. Previous studies show that approximately half of the women have a moderate QOL [3, 7].

Social and demographic factors such as age, level of education, marriage, economic status, employment status [3, 8], educational level of the women, and that of their spouses along with their level of monthly family income [9] affect the QoL. Participating in physical exercise and educational and counseling sessions [10], as well as lower stress and higher social support, may directly increase QOL [11].

Since menopause is an important part of human life and women's QOL is affected by menopause [9], it is necessary to assess the QOL in this period. A good QOL is a very important health goal, not only for menopausal medicine but also for governments and health care officials. One study recommends further research on the QoL of postmenopausal women [12]. The results of a review study indicate that few investigations have used validated analytical methodologies to measure the menopausal QoL [13]. Also, there are different ways to deal with menopause in different cultures. In providing treatment plans, the healthcare providers should consider the differences, needs, and beliefs of women [14]. If up-to-date information on the QoL of postmenopausal women is available, the need for healthcare interventions for this group will be sufficiently documented. In this study, by considering the increase in the number of postmenopausal women and the change in the level of education and care services in the health transformation plan, more up-to-date information about the QoL of postmenopausal women is obtained. Thus, this study investigates the QoL and relevant factors in menopausal women living in Kashan City, Iran.

Materials and Methods

This research is a cross-sectional analytical study. Postmenopausal women were entered in the study from health centers in Kashan city in 2018. Considering that

menopause occurs at an average age of 51 years in women and some menopausal symptoms are transient, the studied women were aged 45-60 years [15] and 1-5 years elapsed since their last menstrual period for homogeneity of samples. They had no other physiological or pathological causes of amenorrhea, according to their report. They should not have used hormonal drugs, food, or herbal hormones [16] in the last 3 months, as well as any medicines that affect menopausal symptoms. The exclusion criterion was the incomplete finishing of the Menopausal QoL (MENQOL) questionnaire.

The sample size was calculated 126 based on the $\alpha=0.05$, $d=2$, and $\text{Mean}\pm\text{SD}$ score of 21.24 ± 11.46 according to the psychosocial dimension of QOL in a similar study [3]. Then, 10 samples were added for each variable, and finally, the number of samples reached 246.

To recruit the samples, Kashan City was firstly divided into three geographical areas based on economic and social conditions, then three centers with a larger covered population were selected from each area. In each center, the samples were selected from the list of the covered population using simple random sampling.

The study questionnaire had two parts. The first part contained demographic questions, and the second part was the Menopausal QoL (MENQoL) questionnaire. MENQOL has four domains of vasomotor, psychosocial, physical, and sexual. These are common symptoms affecting the QoL during menopause. It is a valid questionnaire to assess the QoL after menopause. The original version of the questionnaire was made by Hilditch et al. from the Women's Health Society of Toronto, Canada. MENQOL is a 29-items questionnaire with four domains of vasomotor, physical, psychosocial, and sexual [17]. In the present study, a translated version of this tool was used. In previous studies, three questions were omitted during the validity and reliability determination steps [18, 19]. Each question had four options, scored from 0 to 3. Zero was considered none, 1 minor, 2 medium, and 3 severe. The overall score was obtained by summing the scores of the questions, which were between 0 and 78, and the lower scores indicate a better QOL.

In this study, the quantitative content validity was assessed through Content Validity Ratio (CVR) and Content Validity Index (CVI), obtained 0.79 and 0.82, respectively. The Cronbach α values were 0.737 for vasomotor, 0.772 for psychosocial, 0.779 for physical, 0.781 for sexual domains, and 0.85 for the whole questionnaire. No change was made in the questionnaire at this stage.

Participants completed the questionnaire personally or by interview for the illiterate participants. SPSS19 (IBM Company, Armonk, NY, USA) was used to analyze the obtained information. The qualitative variables were presented by frequency (percentage). $\text{Mean}\pm\text{SD}$ or median (Q1, Q3) was used for quantitative variables depending on the normality status. Normality was assessed with the Kolmogorov-Smirnov test. The relationship between QOL and the other qualitative variables was assessed using the t test. Moreover, the correlation between QOL with age and menopausal age was determined using the Spearman correlation. Even though the QOL score was normal, the normality of these two variables was not established. To enter demographic and midwifery information in the linear regression analysis, we categorized them into binaries. Because of the small number of people with higher education, the education variable was divided into "illiterate and elementary" and "higher". Using linear regression analysis, we examined the simultaneous effects of demographic and midwifery variables on QOL with backward modeling. The level of education, occupation, spouse's level of education, spouse's occupation, marriage status, number of children, number of family members, home ownership, insurance, number of pregnancies, the satisfaction of spouse, and economic satisfaction were entered in linear regression analysis. P values less than 0.05 were considered statistically significant.

Results

The number of women who entered the study was 246. Due to unanswered questions in the MENQOL questionnaire, 10 women were excluded from the analysis. Thus 236 questionnaires remained for analysis. The $\text{Mean}\pm\text{SD}$ age of women was 52.65 ± 3.67 years, their $\text{Mean}\pm\text{SD}$ menopausal age was 49.60 ± 3.34 years, and $\text{Mean}\pm\text{SD}$ years elapsed from menopause was 2.89 ± 1.53 . Other demographic and obstetrical factors are presented in Table 1. The distribution of the QOL score was normal based on the Kolmogorov-Smirnov test. The $\text{Mean}\pm\text{SD}$ score for total QOL was 31.24 ± 11.47 (3.00-65.00). The $\text{Mean}\pm\text{SD}$ scores of QOL domains were 3.21 ± 1.82 (range: 0.00-6.00) for vasomotor (2 questions), 8.27 ± 4.21 (0.00-21.00) for psychosocial (7 questions), 18.12 ± 7.27 (1.00-40.00) for physical (14 questions), and 2.91 ± 1.86 (0.00-9.00) for sexual (2 questions) domains. There were no significant correlations between QOL and women's age, menopausal age, and elapsed years from menopause based on the Pearson and Spearman tests.

Table 1. Demographic and obstetric characteristics of postmenopausal women participating in the study

Variables		No.(%)	QoL/Mean±SD	P*
Level of education	Illiterate and primary school	229(97.04)	32.32±12.14	0.972
	Higher	6(2.54)	32.50± 10.86	
	No answer	1(0.42)	-	
Occupation	Homemaker	219(92.80)	32.44±12.12	0.568
	Employed	17(7.20)	30.70±11.48	
Spouse's level of education	≤ Diploma	158(66.95)	32.53±11.96	0.021
	Higher	73(30.93)	30.94±12.02	
	No answer	4(1.69)	-	
Spouse's occupation	Employed	109(46.19)	32.29±10.81	0.114
	Retired	122(51.69)	31.90±10.69	
	No answer	5(2.12)	-	
Marriage status	Married	206(87.29)	31.97±11.90	0.242
	Single	30(12.71)	34.73±13.09	
Number of children	≤ 3	158(66.95)	30.87±11.08	0.395
	More	73(30.93)	32.31±11.82	
	No answer	5(2.12)	-	
Number of family members	≤ 5	179(75.85)	31.43±11.28	0.814
	More	57(24.15)	32.27±13.43	
Home ownership	Personal	215(91.11)	32.45±12.70	0.574
	Rental	21(8.89)	30.77±13.01	
Insurance	Insured	221(93.64)	32.00±11.76	0.854
	Not insured	10(0.42)	33.00±18.76	
	No answer	5(2.12)	-	
Number of pregnancies	≤3	141(59.75)	30.40±11.28	0.214
	More	95(40.25)	32.45±11.40	
Satisfaction of spouse	Low	161(68.22)	33.63±12.40	0.014
	Much	75(31.78)	29.49±10.85	
Economic satisfaction	Low	217(91.95)	32.80± 12.06	0.039
	Much	19(8.05)	26.84±10.99	

* The Independent t-test.

Table 2. Linear Regression model of demographic and obstetric variables on womens' QoL

Models	Unstandardized Coefficients		t	P	95%CI for B	
	B	SE			Lower	Upper
Constant	19.75	15.803	1.25	0.213	-	-
Age	2.61	1.09	2.39	0.02	0.46	4.77
Menopausal age	-2.199	1.109	-1.98	0.049	-4.39	-0.01
Elapsed years from menopause	-1.986	1.174	-1.69	0.093	-4.30	0.33
Spouse's level of education	-3.426	1.785	-1.92	0.057	-6.95	0.10
Satisfaction of spouse	-4.903	1.798	-2.73	0.007	-8.45	-1.35

Dependent variable: Menopausal QoL.

According to Table 2, all other variables constant, the older women receive higher scores of QOL (B=2.61, 95%CI; 0.46-4.77, P=0.02) that means worsen QOL, women who had gone through menopause at an older age, receive lower ((B=-2.199; 95%CI: -4.39, -0.01; P=0.049) QOL score that means better QOL. Women who had more elapsed years from menopause, receive lower QOL score (B=-1.986, 95%CI; -4.30 - 0.33, P=0.093) that means better QOL, women who have higher satisfaction of spouse have lower ((B=-4.903, 95%CI; -8.45 - -0.35, P=0.007) score which is a sign of better QOL and women whose spouses have a higher level of education have lower QOL score (B=-3.426, 95%CI; -6.95- 0.10, P=0.057) . In addition, the value of R2 in the regression model was 11.8%, indicating that there are other unknown variables affecting the QOL of women.

Discussion

In this study, menopausal QOL and some relevant factors in menopausal women were studied.

The results showed that age is associated with higher scores of QOL. In the MENQOL questionnaire that is a suitable scale for QoL studies in postmenopausal women [10], a higher score means more severity of menopausal symptoms, and severity of menopausal symptoms adversely affect their QOL [20]. The lower obtained score shows better QOL, and the higher score for age is a sign of worsening QOL for older women. It should be remembered that there are symptoms of menopause (such as musculoskeletal pain and dry skin) that increase with age. Similarly, it was shown that some demographic factors such as age affect the QOL in postmenopausal women, and younger women had a better QOL than older women [8, 21].

In contrast, another study showed that the age of the women was not significantly correlated with QOL domain scores [9]. Probably because in this study, the QoL has been measured in relation to menopause, and they excluded women whose menopause passed longer than 5 years. This issue could have affected this finding. Also, another study showed that age does not affect QOL [15]. But in their research, almost half of the women had not yet reached menopause.

In this study, more elapsed years from menopause are associated with a lower score and better QoL. Similarly, another study reported that postmenopausal duration affected QOL in rural women [22], and menopausal women had a better QOL than perimenopause women [23]. It seems that older age is associated with poor QOL. Improvement in QoL may be due to the temporary nature of some menopausal complications such as hot flashes.

In this study, spouse's level of education is negatively associated with QOL score. So, women whose husbands have a higher education have better QOL. Another study reported that the QOL scores were positively correlated with the husbands' level of education [9]. The present study's findings align with the results obtained in the above research. We can consider that the level of education is often associated with higher income and awareness, and these variables can be the cause of a better QoL.

In this study, a better QoL is associated with the satisfaction of the spouse. It is reported that as menopausal symptom severity increases, marital adjustment decreases [24], and spouses' perceptions of and attitudes toward menopause may affect women's menopausal symptoms, attitudes toward menopause, and marriage relationships [25]. Also, there is a significant positive relationship between marital satisfaction and emotional

intelligence [26]. Therefore, a better QoL can result from spouse satisfaction, and spouse satisfaction can decrease menopausal complications.

In this study, income status had no significant relationship with QoL. But a previous study reported that monthly income is associated with the QoL in postmenopausal women [4]. Another study found that the good income status of women decreased menopause-based complaints [27].

In this study, marriage status had no significant relationship with the QoL. But other studies have shown a significant relationship between marital status and QoL [21, 28], and marital status was among the factors significantly associated with the frequency and the severity of menopause-related symptoms [29]. Additionally, unmarried women had higher mean scores (lower QoL) in the vasomotor and physical domains, but the differences were not significant. This difference between their and our studies may be due to the small number of real singles in our research. Very few of our participants were unmarried, and that number was small to calculate the relationship. So we categorized these women with those who were single now, though they had a history of marriage.

In this study, education had no significant relationship with the QoL. Another study mentioned that lower education level is significantly associated with poor QoL [28]. This difference is because we did not have high enough educated participants. In this study, most participants had primary education, and there was no diversity to examine the effect of education among them. In the present study, the gravidity had no significant relationship with QoL, but a previous study showed that parity is significantly associated with poor QoL [28].

Finally, in this study, the variables of age, menopausal age, elapsed years from menopause, spouse's level of education, and marital satisfaction are associated with QoL. The results of this study can help plan better programs to improve the QoL of postmenopausal women in health centers. Also, the average level of QoL in postmenopausal women is a reminder for health policymakers of the need for intervention programs to improve the QoL and health in the various domain of QoL of this large and growing group.

Because cross-sectional studies are not appropriate to investigate the causes, the evaluation of the QoL of postmenopausal women in the disease and also planning the interventions to improve the QoL is recommended. On the other hand, sampling was done in health cen-

ters, which due to the presence of participants during working hours, the presence of employees was low. It is suggested that other studies include sampling in different workplaces. A limitation of the present study was the low level of literacy of the participants, which is why many questionnaires were completed by interview. This data collection method may have changed the results, but it was beyond the researcher's control.

Ethical Considerations

Compliance with ethical guidelines

The Ethic Committee of Kashan University of Medical Sciences approved this study (Code: IR.KAUMS.NUHEPM.REC.2019.061 2.2). Participating in the study was voluntary. The questionnaires were anonymous, and women were told that their information was used only in general and would be kept confidential. Written informed consent was obtained from the participants.

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Authors' contributions

Study concept: Mahboobeh Kafei Atrian; Writing the original draft: Mahboobeh Kafei Atrian and Fatemeh-Sadat Izadi Avanji; Data collection Saeideh Nasiri and Fatemeh-Sadat Izadi Avanji; Data analysis: Fatemeh Abbaszadeh; Reviewing the final edition: All authors.

Conflict of interest

The authors declared no conflict of interest.

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References

- [1] World Health Organization (WHO). Tools and toolkits/ WHOQOL: Measuring quality of life [Internet]. 2022 Available from: <https://www.who.int/tools/whoqol>. 2022.1.8
- [2] Sharifi K, Tagharrobi Z, Sooki Z. Quality of life among Iranian postmenopausal women: A systematic review and meta-analysis. *Galen Medical Journal*, 2020; 9:e1649. [DOI:10.31661/gmj.v9i0.1649] [PMID] [PMCID]

- [3] Alaeenejad A, Farahaninia M, Janmohammadi S, Haghani H. Relationship between health-promoting behaviors and quality of life in postmenopausal women. *Journal of Client-Centered Nursing Care*. 2017; 3(4):269-76. [DOI:10.32598/jccnc.3.4.269]
- [4] Rathnayake N, Alwis G, Lenora J, Mampitiya I, Lekamwasam S. Effect of health-promoting lifestyle modification education on knowledge, attitude, and quality of life of postmenopausal women. *BioMed Research International*. 2020; 2020:3572903. [DOI:10.1155/2020/3572903] [PMID] [PMCID]
- [5] Golyan Tehrani S, Ghobadzadeh M, Arastou M. [Promoting health status of menopausal women by educating self care strategies (Persian)]. *Hayat*. 2007; 13(3):67-75. <http://hayat.tums.ac.ir/article-1-172-en.html>
- [6] Barton DL, Lavasseur BI, Sloan JA, Stawis AN, Flynn KA, Dyar M, et al. Phase III, placebo-controlled trial of three doses of citalopram for the treatment of hot flashes: NCCTG trial N05C9. *Journal of Clinical Oncology*. 2010; 28(20):3278-83. [DOI:10.1200/JCO.2009.26.6379] [PMID] [PMCID]
- [7] Smail L, Jassim G, Shakil A. Menopause-specific quality of life among Emirati women. *International Journal of Environmental Research and Public Health*. 2019; 17(1):40. [DOI:10.3390/ijer-ph17010040] [PMID] [PMCID]
- [8] Norozi E, Mostafavi F, Hasanzadeh A, Moodi M, Sharifirad G. Factors affecting quality of life in postmenopausal women, Isfahan, 2011. *Journal of Education and Health Promotion*. 2013; 2:58. [DOI:10.4103/2277-9531.120857] [PMID] [PMCID]
- [9] Nazarpour S, Simbar M, Ramezani Tehrani F, Alavi Majd H. Factors associated with quality of life of postmenopausal women living in Iran. *BMC Women's Health*. 2020; 20(1):104. [DOI:10.1186/s12905-020-00960-4] [PMID] [PMCID]
- [10] Taebi M, Abdollahian S, Ozgoli G, Ebadi A, Kariman N. Strategies to improve menopausal quality of life: A systematic review. *Journal of Education and Health Promotion*. 2018; 7:93. [DOI:10.4103/jehp.jehp_137_17] [PMID] [PMCID]
- [11] Xiao Y, Wang H, Zhang T, Ren X. Psychosocial predictors of physical activity and health-related quality of life among Shanghai working adults. *Health and Quality of Life Outcomes*. 2019; 17(1):72. [DOI:10.1186/s12955-019-1145-6] [PMID] [PMCID]
- [12] Ibrahim ZM, Ghoneim HM, Madny EH, Kishk EA, Lotfy M, Bahaa A, et al. The effect of menopausal symptoms on the quality of life among postmenopausal Egyptian women. *Climacteric*. 2020; 23(1):9-16. [DOI:10.1080/13697137.2019.1656185] [PMID]
- [13] Hegadoren K, Lewis J, Ross SJ, Shandro T, Campbell S, Sydora BC, et al. Research and clinical application of the menopause-specific quality of life (MENQOL) Questionnaire: A comprehensive systematic review. 2013; 1-1. [DOI:10.7939/R3FN0F]
- [14] Orendorz-Frączkowska K, Temporale H. Organ of hearing and balance in peri-and postmenopausal women. Effects of hormone replacement therapy on hearing and balance in peri-and post-menopausal women: The current state of knowledge. *Advances in Clinical and Experimental Medicine*. 2020; 29(6):751-5. [DOI:10.17219/acem/121935] [PMID]
- [15] Larroy C, Martin CM, Lopez-Picado A, Arias, IF. The impact of perimenopausal symptomatology, sociodemographic status and knowledge of menopause on women's quality of life. *Archives of Gynecology and Obstetrics*. 2020; 301(4):1061-8. [DOI:10.1007/s00404-019-05238-1] [PMID]
- [16] Shafaei FS, Mirghafourvand M, Jafari M. Effect of education through support group on early symptoms of menopause: A randomized controlled trial. *Journal of Caring Science*. 2014; 3(4):247-56. [DOI:10.5681/jcs.2014.027] [PMID] [PMCID]
- [17] Hilditch JR, Lewis J, Peter A, van Maris B, Ross A, Franssen E, et al. A menopause-specific quality of life questionnaire: Development and psychometric properties. *Maturitas*. 1996; 24(3):161-75. [DOI:10.1016/0378-5122(96)01038-9] [PMID]
- [18] Mohammadi Zeidi E, Pakpour A, Mohammadi Zeidi B. [The impact of educational interventions based on individual empowerment model on knowledge, attitude, self-efficacy, self esteem and quality of life of postmenopausal women (Persian)]. *Iran Journal of Nursing*. 2013; 26(81):21-31. <http://ijn.iuums.ac.ir/article-1-1517-en.html>
- [19] Yazdkhasti M, Keshavarz M, Merghati Khoei E, Hosseini AF. [The effect of structured educational program by support group on menopause women's quality of life (Persian)]. *Iranian Journal of Medical Education*. 2012; 11:986-94. <https://ijme.mui.ac.ir/article-1-1515-fa.html>
- [20] Mohamed HAE, Lamadah SM, Zamil LGA. Quality of life among menopausal women. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2014; 3(3):552-61. [DOI:10.5455/2320-1770.ijrcog20140906]
- [21] Peters M, Potter CM, Kelly L, Fitzpatrick R. Self-efficacy and health-related quality of life: A cross-sectional study of primary care patients with multi-morbidity. *Health and Quality of Life Outcomes*. 2019; 17(1):37-48. [DOI:10.1186/s12955-019-1103-3] [PMID] [PMCID]
- [22] Haghi HB, Hakimi S, Mirghafourvand M, Mohammad-Alizadeh S, Charandabi MF. Comparison of quality of life between urban and rural menopause women and its predictors: A Population Base study. *International Journal of Women's Health Reproduction Sciences*. 2017; 5(2):137-42. [DOI:10.15296/ijwhr.2017.25]
- [23] Al-Dughaiter A, Al-Mutairy H, Al-Ateeq M. Menopausal symptoms and quality of life among Saudi women visiting primary care clinics in Riyadh, Saudi Arabia. *International Journal of Women's Health*. 2015; 7:645-53. [DOI:10.2147/IJWH.S84709] [PMID] [PMCID]
- [24] Bülbül T, Mucuk S, Dolanbay M, Turhan İ. Do complaints related to menopause affect sexuality and marital adjustment? *Sexual and Relationship Therapy*. 2021; 36(4):465-79. [DOI:10.1080/14681994.2020.1813886]
- [25] Zhang X, Wang G, Wang H, Wang X, Ji T, Hou D, et al. Spouses' perceptions of and attitudes toward female menopause: A mixed-methods systematic review. *Climacteric*. 2020; 23(2):148-57. [DOI:10.1080/13697137.2019.1703937] [PMID]
- [26] Heidari M, Sheikhi RA, Rezaei P, Abyaneh SK. Comparing quality of life of elderly menopause living in urban and rural areas. *Journal of Menopausal Medicine*. 2019; 25(1):28-34. [DOI:10.6118/jmm.2019.25.1.28] [PMID] [PMCID]
- [27] Ozcan H. Healthy life style behaviors and quality of life at menopause. *International Journal of Caring Sciences*. 2019; 12(1):492-500. http://www.internationaljournalofcaringsciences.org//_12_1_1.pdf
- [28] Al-Musa HM, Ahmed RA, Alsamghan AS, Abadi S, Alahmari S, Alshahrani H, et al. The prevalence of symptoms experienced during menopause, influence of socio-demographic variables on symptoms and quality of life among women at Abha, Saudi Arabia. *Biomedical Research (India)*. 2017; 28(6):2587-95. <https://www.researchgate.net/profile/Mohammed-/publication/325655255>
- [29] 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. *PLoS One*. 2020; 15(3):e0230515. [DOI:10.1371/journal.pone.0230515] [PMID] [PMCID]