



Effect of lifestyle on Psychological Well-being and Severity of Menopausal Symptoms in Women during the Premenopausal Period

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Abstract

Background: The premenopausal period is a variable time range in the last years of women's fertility period, which is associated with contrasting physical and mental symptoms in different women. The aim of study was to determine the relationship between lifestyle and physical and psychological symptoms of premenopausal period in women.

Methods: This descriptive-analytic study was performed on 400 women referring to Shahrood health centers during the premenopausal period in 1396. Cluster sampling was done. The instruments used included demographic information questionnaire, lifestyle questionnaire (LSQ), Keys and Gyarmo well-being scale, and Hayman's MRS menopause scale. Data were analyzed by SPSS-24 software. Descriptive characteristics were reported using central and dispersion statistical indicators and frequency distribution: Pearson correlation test, t-test, and one way ANOVA were used. The general linear regression model was used to control conflicting variables. Significant level was set at 0.05.

Results: The mean age of women was 46.5 ± 2.8 years. 43.8% of women report severe hot flashes. The results of Pearson correlation coefficient showed a significant and positive correlation between the total score of lifestyle with psychological well-being, the severity of menopausal symptoms, and education level (P value < 0.001).

Conclusions: Healthy lifestyle affects the psychological well-being and decreases the severity of menopausal symptoms during premenopausal women, and appropriate education and counseling are essential in this regard.

Keywords: Lifestyle, Premenopausal, Psychological well-being, Menopause.

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average at 45.5-47.5 and lasts four years until menopause (on average 51.3 years).

Menopause can be affected by various factors such as smoking, high altitude living, and a history of depression. In addition to hormonal changes, vasomotor symptoms such as hot flashes and night sweats (flashes that occur during sleep) occur in 45 to 85% of women.³ Women experience a variety of symptoms during the initial transition. Symptoms include breast tenderness, vasomotor symptoms, insomnia, migraines, and premenstrual disorders. At the onset of delayed transmission, genital atrophy, and sexual function problems appear.⁴ Other symptoms include fatigue and sleep disturbances, skin disorders, genitourinary disorders, decreased libido and dyspareunia, depression and Alzheimer's disease, osteoporosis, and increased risk of heart disease.^{5,6} The menopausal crisis affects mental, physical, emotional, social, and family relationships through its symptoms and complications.⁷ Physiological changes and psychological problems in menopause and its periods are the most important factors related to sexual disorders and cause psychological disorders of this period.⁸ Researchers found that hormonal changes during pre-menopause affect women's brain and body, so learning stress management and lifestyle change is crucial for women during this period.⁸ Women use a range of traditional and modern treatments, such as herbal remedies, exercise, diet changes, and chemical drugs to reduce menopausal symptoms.⁹

Women can use pharmacological and non-pharmacological methods to maintain health and prevent future complications in the post-menopausal years. Non-pharmacological approaches focus mainly on lifestyle modifications. Lifestyle refers to the behaviors that people perform about their diet and eating habits, how they spend their leisure time, smoking, physical activity, and how to use health care.¹⁰

Some studies have shown that women who exercise during the pre-menopausal period have decreased intensity and frequency of hot flashes. Also, smoking or exposure to cigarette smoke increases the rate of hot flashes. Numerous studies have also reported a positive relationship between the severity of menopausal symptoms and BMI.¹¹ Having a healthy lifestyle is important because hormone therapy (HRT) has risks despite its effect on vasomotor symptoms, but a healthy lifestyle can relieve some menopausal symptoms without complications.¹¹ Postmenopausal women with unhealthy lifestyles experience more sleep problems.¹² Many health problems are also associated with lifestyle changes. The

Introduction

The world health organization defines peri-menopause as a period (2-8 years) before menopause and one year after the last menstrual period resulting from loss of ovarian follicular activity.¹ Peri-menopause is an uncertain period that begins with the first irregular menstruation and ends with a year after amenorrhea. There are two stages to the peri-menopausal period: initial transmission, at this stage the menstrual cycle is mostly regular, with relatively low latency, and the second stage as delayed transmission, when the amenorrhea becomes longer and at least 60 days after the last menstruation.² The peri-menopausal period begins with severe secondary biological changes due to endocrine changes. Therefore, the period of pre-menopause or "menopausal transition period" indicates the transition to fertility.³ This period starts on

importance of lifestyle in health is mainly due to its impact on the quality of life and disease prevention.⁶

This study was designed to determine the relationship between lifestyle and all physical and psychological symptoms that can occur after menopause.

Materials and Methods

This descriptive-analytical study was carried out on 400 women during the pre-menopausal period who were admitted to Shahroud clinics after obtaining the necessary licenses from January 2017 to June 2018. The study was conducted by providing sufficient explanations to the authorities and women participating in the research and obtaining their consent and assuring them of confidentiality without the direct presence of the researcher. According to the type of study (correlation) and according to the study by Azhari and et al,¹³ considering the test power of 0.8 and 5% error and correlation ($r = 0.16$) and according to the formula of sample size, 400 women in the pre-menopausal period was determined for the study. 95% confidence interval and 0.05 were considered significant. The correlation considered in this paper cites the correlation between lifestyle and the number of hot flashes with a significant level (P value = 0.002).

Inclusion criteria included being Iranian, residing in Shahroud, literacy, consent to participate in the study, women in the age range of 40 to 55 years at which menopausal symptoms begin are in the pre-menopausal age up to one year after menopause, naturally menopause occurrence, no history of psychiatric illness in one last year. Exclusion criteria included occurrence of stressful events during the study, pregnancy, failure to answer more than 20% of questions. Cluster sampling was done. Middle-aged women in four districts north, south, east and west of Shahroud city from among the 11 health centers of the city, constituted the population within clusters. Samples were randomly selected from among these clusters (4 centers) using the SIB electronic system.

The data collection tools included demographic information questionnaire, Keys and Gyarmo subjective well-being questionnaire, and MRS Heinemann menopause scale. Data were analyzed using SPSS-24 statistical software. Descriptive characteristics were reported using central and dispersion indices (mean and standard deviation) and frequency distribution. Pearson correlation test, one-way ANOVA, t-test, and general linear regression were used to control for confounding variables. The demographic information questionnaire consisted of 20 questions, such as demographic characteristics and questions on fertility issues. The questionnaire was developed after studying the latest books and articles in the field of research.

Content validity was then used to determine validity. After preparing demographic information questionnaires, lifestyle questionnaire, and triple well-being questionnaire and graded menopausal scale, this tool was provided to 5 faculty members of Shahrood Nursing School, and they were used after making the necessary suggestions and corrections.

Lifestyle questionnaire (LSQ): the final version of this questionnaire has 70 questions and measures 10 factors including physical health, exercise and proper activity, weight control, proper nutrition, disease prevention, psychological health, spiritual health, social health, avoidance of arbitrary drugs, drugs and alcohol, accident prevention, and environmental health. In the study of Lali et al. Validity of this questionnaire with Cronbach's alpha was 0.87,¹⁴ and the reliability of the questionnaire with Cronbach's alpha coefficient was 0.82.

Triple wellness questionnaire: this questionnaire was designed by Keyes and Magyarmo, which included three dimensions of emotional well-being (12 questions), psychological well-being (18 questions), and social well-being (15 questions). Tamanaifar's internal consistency coefficient based on Cronbach's alpha for the whole questionnaire was 0.63.¹⁵ In the present study, the reliability of the questionnaire was calculated 0.73 by Cronbach's alpha coefficient.

Heinemann menopause rating scale: the menopause rating scale is designed to measure the severity of menopausal complaints and assess health-related quality of life. The questionnaire consists of 11 questions and three domains of physical, psychological, and urinary-genital status and measures menopausal status based on the five-point Likert scale.¹⁶ Cronbach's alpha coefficient calculated for Makvandi et al. Was 0.70 for this questionnaire.¹⁷ In the present study, the reliability of the questionnaire was calculated 0.78 using Cronbach's alpha coefficient.

Results

In this study, 400 women were studied. The mean age of the women was 46.5 ± 2.8 years. 48.5% of women reported mild menopausal symptoms, 7.8% moderate menopausal symptoms, and 43.8% reported severe menopausal symptoms.

The results of the independent t-test showed that the total score of lifestyle and psychological well-being was significantly higher in married people (P value < 0.001). Also, the severity of menopausal symptoms was significantly higher in divorced women (P value < 0.001). There was no significant relationship between duration of menopausal symptom onset and severity of symptoms and psychological well-being, but there was a significant relationship between this variable and lifestyle score, the shorter the duration of onset of menopausal symptoms, the higher the lifestyle score (P value = 0.04). There was no relationship between lifestyle variables, the severity of menopausal symptoms, and mental well-being with chronic diseases. There was also a significant relationship between desirable physical activity and lifestyle scores, the severity of menopausal symptoms, and psychological well-being. The severity of menopausal symptoms was significantly higher in employed women (P value < 0.001), but there was no significant relationship between lifestyle variables and psychological well-being. The results of one-way ANOVA showed that the total score of lifestyle and well-being in individuals with bachelor's degrees was higher than others and the severity of menopausal symptoms was lower in those with bachelor's degrees (P value < 0.001) (table 1). There was a

significant negative relationship between the severity of menopausal symptoms and education ($r = -0.221$, $Pvalue < 0.001$).

Pearson correlation coefficient test results showed that there is a positive and significant relationship between total lifestyle score with psychological well-being, menopausal symptoms severity and its three domains, that is, with increasing each of these variables, total lifestyle score increases (table 2).

In order to control affective variables, all variables were

entered into the general linear regression model. Variables affecting lifestyle, psychological well-being and severity of menopausal symptoms were entered into the general linear regression model as independent variables, and three main variables were entered as general linear regression models as dependent variables in several steps. Finally, marital status ($\beta = -0.126$, $Pvalue = 0.008$) and job ($\beta = 0.258$, $Pvalue < 0.001$) and education ($\beta = 0.126$, $Pvalue < 0.001$) and physical activity ($\beta = 0.246$, $Pvalue < 0.001$) variables, respectively were predictors.

Table 1. Mean and standard deviation and correlation results of total lifestyle score, psychological well-being score and severity of menopausal symptoms in the studied women according to some of their demographic characteristics

Parameter	N(%)	Severity of symptoms (mean ± SD)	Mental well-being (mean ± SD)	Life style (mean ± SD)
Marital status				
Single		13.1 ± 29.4	82.4 ± 27.0	198.4 ± 42.7
Married	7 (1.8)	28.1 ± 13.7	85.8 ± 28.4	207.5 ± 44.3
Discovered	364 (91)	75.7 ± 36.1	39.0 ± 12.2	194.1 ± 44.8
Widow	9 (2.2)	34.8 ± 12.4	75.3 ± 28.9	191.8 ± 47.9
Pvalue	20 (5)	<0.001	<0.001	<0.001
Educations				
Elementary		31.0 ± 13.1	28.5 ± 80.8	201.0 ± 44.8
Middle	136 (34)	13.3 ± 31.1	29.4 ± 80.4	199.4 ± 44.6
Diploma	123 (30.7)	12.2 ± 25.2	26.2 ± 91.6	218.5 ± 41.3
Bachelor	113 (28.2)	10.5 ± 21.9	22.8 ± 115.0	229.6 ± 37.7
Pvalue	28 (7)	<0.001	<0.001	<0.001
Tobacco consumption				
Yes		68.2 ± 10.5	71.2 ± 12.1	88.1 ± 3.7
No	80 (20)	35.4 ± 21.1	45.2 ± 16.1	45.7 ± 16.1
Pvalue	320 (80)	<0.001	0.075	<0.001
Onset of symptoms				
1-2 years		31.3 ± 12.1	18.5 ± 50.8	206.5 ± 40.15
2-4 years	65 (16.3)	14.3 ± 29.2	19.4 ± 51.4	194.1 ± 49.87
4-6 years	240 (60.0)	11.1 ± 25.1	24.2 ± 91.5	191.0 ± 24.5
More than 6 years	93 (23.2)	11.3 ± 20.9	12.8 ± 117.0	190.2 ± 41.6
Pvalue	2 (0.5)	0.092	0.087	0.040
Chronic disease				
Yes		38.1 ± 11.7	95.41 ± 38.3	187.5 ± 34.3
No	278 (69.5)	55.7 ± 36.11	39.0 ± 22.2	216.1 ± 39.8
Pvalue	122 (30.5)	0.094	0.072	0.063
Enough physical activity (three times a week)				
Yes		38.1 ± 10.2	95.41 ± 38.3	217.5 ± 22.3
No	198 (69.5)	55.7 ± 36.1	79.0 ± 22.1	154.11 ± 45.6
Pvalue	202 (50.5)	0.094	<0.001	<0.001
Employed				
Yes		78.1 (11.7)	81.7 (38.4)	227.5 ± 41.1
No	150 (37.5)	35.7 (26.1)	79.0 (14.2)	194.1 ± 47.6
Pvalue	250 (62.5)	<0.001	0.078	0.094
Weight				
Under weight		11.0 ± 27.2	12.1 ± 19.4	14.1 ± 39.4
Normal	36 (9)	48.1 ± 10.5	38.1 ± 11.7	48.1 ± 14.7
Overweight	123 (30.7)	85.2 ± 26.1	89.7 ± 36.1	95.7 ± 36.1
Obesity	143 (35.7)	44.7 ± 13.4	44.8 ± 10.4	54.8 ± 12.5
Pvalue	98 (24.5)	0.067	<0.001	<0.001
Sexual satisfaction				
Yes		68.1 ± 12.7	77.1 ± 1.7	66.1 ± 13.7
No	150 (37.5)	95.7 ± 16.1	89.7 ± 16.1	97.7 ± 16.1
Pvalue	250 (62.5)	<0.001	<0.001	<0.001

Table 2. Correlation coefficient of lifestyle score with psychological well-being score and severity of menopausal symptoms in women and three scales of Heinemann menopausal scale

Parameter	Emotional well-being	Psychological well-being	So well-being cial	Severity of menopausal symptoms (physical)	Severity of menopausal symptoms (psychological)	Severity of menopausal symptoms (eurogenital)
Lifestyle	$r = 0.93$ Pvalue = 0.001	$r = 0.95$ Pvalue = 0.001	$r = 0.88$ Pvalue = 0.001	$r = -0.93$ Pvalue = 0.001	$r = -0.79$ Pvalue = 0.03	$r = -0.85$ Pvalue = 0.02

Discussion

The results of this study indicate a direct relationship between the total score of lifestyle with psychological well-being and the severity of menopausal symptoms and education level and with increasing each of these variables, the total score of lifestyle increases.

Nancy et al. (2018) conducted an 11-year study to determine changes in health factors affecting the quality of life in 59-47 and 69-57 year's old women and concluded that several factors such as sleep quality, physical activity, and BMI and overall lifestyle could be effective factors on quality of life in older women, these results are in agreement with our findings.¹⁸

In a study by Azhari and et al. which examined the relationship between lifestyle and sleep quality in postmenopausal women, the results showed that there was no significant correlation between a healthy lifestyle and the intensity of hot flashes, which is inconsistent with the results of the present study. The reasons for this are the differences in the questionnaire used. Another reason for this discrepancy may be due to differences in the study participants, as stated in the study of postmenopausal women.¹³

In a study by Moilanen et al., Aimed at investigating the prevalence of menopausal symptoms and its association with lifestyle in middle-aged women over 1427 women aged 45-64 years, one-third (38%) of pre-menopausal women, 50% of women in the pre-menopausal period and 54% of women in the post-menopausal years and those who had had hysterectomy reported annoying symptoms. Significant differences were found between pre-menopausal and pri-menopausal groups, and this difference was greater for hot flashes and low back pain. Women with regular physical activity reported lower back pain than the opposite group. No association was found between smoking and vasomotor symptoms, which is inconsistent with the results of our study. Finally, the results of the study indicate that a healthy lifestyle with adequate physical activity is effective in reducing the symptoms of physical abuse, the results of this study are congruent with our study findings.¹¹

In the study of Elusky et al., with the aim of investigating the effects of exercise for 4 months on mental health outcomes in 164 middle-aged women with sedentary lifestyle, concluded that physical activity can affect women's mental health by improving mood and enhancing women's quality of life in menopause, which is inconsistent with the results of the present study.¹⁹ Although women with physical activity had higher psychological well-being scores in this study, this difference was not significant.

Taherpour in his study on the effect of education on postmenopausal women's knowledge and attitude about menopausal symptoms and complications performed on 100 women 45-60 years old argues teaching postmenopausal women about different aspects of a healthy lifestyle will raise their awareness, change their attitudes about menopause, and then change their behaviors and empower them to deal with the effects of this period.²⁰ According to the study of Moradabadi et al. (2015), married women had a higher quality of life than divorced and widowed women which is in line with the results of our study.²¹

In the present study, there was a negative and significant relationship between education level and severity of menopausal symptoms which is inconsistent with the results of Azhari's study.¹³ This difference may be due to the subjects being studied because postmenopausal women were included in his study. The results of the present study are consistent with studies by Pimenta et al. (2012) that reported the severity of hot flashes and night sweats is lower in women with a bachelor's degree or higher.²² In the present study, a significant relationship was found between physical activity and hot flash intensity, which is the same as the Lopez study of postmenopausal women.²³

The present study found a significant relationship between women's employment and the severity of menopausal symptoms. The severity of menopausal symptoms was increased in working women that this may be due to job stress and reduced rest time, which is inconsistent with the results of Moradabadi et al. (2015).²¹

The relationship between lifestyle and psychological well-being and the severity of menopausal symptoms indicate that investing inappropriate and standard training to change attitudes about lifestyle and to make the right choices for a healthy life is important in many aspects such as proper nutrition, adequate physical activity, and other health care in premenopausal period and it can reduce the annoying symptoms of menopause.

The strengths of this study are the size of the sample, and the limitations of the study are the lack of cooperation of middle-aged women in filling out forms due to lack of motivation and time.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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