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ARAŞTIRMA / RESEARCH

Effect of Health Promoting Lifestyle Education Program on reducing the menopausal symptoms of women in Turkey

Türkiye'de Sağlığı Geliştirme Eğitim ve Danışmanlık Programının kadınlarda menopozal belirtilerin azaltılmasına yönelik etkisi

Derya Yüksel Koçak[1], Nezihe Kizilkaya Beji[2]

[1]Hitit University, Faculty of Health Sciences, Department of Nursing, Çorum, Turkey
[2]Biruni University, Faculty of Health Sciences, Department of Nursing, İstanbul, Turkey

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Abstract

Purpose: This study aimed to determine the effect of health-promoting lifestyle education given to menopausal women in accordance with Pender's Health Promoting Model (HPM) on reducing the menopausal symptoms.

Materials and Methods: This study is a semi-experimental research with pre-test and post-test control groups. In the first stage of the study, Socio-demographic Information Form (SIF) and Menopause Rating Scale (MRS) were applied to 401 menopausal women to determine the severity of their menopausal symptoms. In the second phase of the study, women with intense menopausal symptoms were randomly divided into two groups. 32 menopausal women in initiative group and 32 menopausal women were in the control group. One group, the experimental group, received Health-Promoting Lifestyle Education (HPLE), while the other group was the control group. Menopause Rating Scale (MRS), Health Promoting Lifestyle Profile II (HPLP II), and Self-Efficacy Scale (SES) were applied as pretests in both groups. Health-promoting lifestyle education was given to the experimental group twice with a one-week break between the sessions and the sessions were completed in four weeks.

Results: Statistically significant decreases were found in the total MRS scores and subdimension scores of the menopausal women in experimental group after the education.

Conclusion: Health-promoting lifestyle education was found to be effective in reducing the severity of menopausal symptoms.

Keywords: Health promoting, health education, postmenopause, women, menopausal symptoms

Öz

Amaç: Bu çalışma menopozal dönemdeki kadınlara Pender'in Sağlığı Geliştirme modeli doğrultusunda uygulanan Sağlığı Geliştirme Eğitim ve Danışmanlık Programının menopozal belirtilerin giderilmesine etkisini belirlemeyi amaçlamıştır.

Gereç ve Yöntem: Bu çalışma ön test ve son test kontrol gruplu yarı deneysel bir araştırmadır. Çalışmanın ilk aşamasında, menopoz semptomlarının şiddetini belirlemek için 401 menopoz dönemindeki kadına Sosyodemografik Bilgi Formu (SIF) ve Menopoz Semptomlarını Değerlendirme Ölçeği (MSDÖ) uygulanmıştır. Çalışmanın ikinci aşamasında, yoğun menopoz semptomları olan kadınlar randomize olarak iki gruba ayrılmıştır. Deney grubu, Sağlığı Geliştirme Eğitim ve Danışmanlık Programı grubu, diğer grup ise kontrol grubu olarak belirlenmiştir. 32 menopozal kadın girişim, 32 menopozal kadın kontrol grubunda yer almıştır. Menopoz Derecelendirme Ölçeği (MSDÖ), Sağlıklı Yaşam Davranışları Ölçeği II (SYBDÖ II) ve Özetkililik-Yeterlilik Ölçeği her iki grupa da ön test olarak uygulanmıştır. Sağlığı Geliştirme Eğitim ve Danışmanlık Programı, deney grubuna iki kez birer hafta ara ile uygulanmış ve seanslar dört haftada tamamlanmıştır.

Bulgular: Eğitimden sonra, deney grubundaki menopozdaki kadınların toplam MSDÖ skorları ve alt boyut puanlarında istatistiksel olarak anlamlı bir düşüş belirlenmiştir.

Sonuç: Sağlığı Geliştirme Eğitim ve Danışmanlık Programının menopoz belirtilerin şiddetini azaltmada etkili olduğu belirlenmiştir.

Anahtar kelimeler: Sağlığı geliştirme, sağlık eğitimi, menopoz sonrası kadınlar, menopoz semptomları

Yazışma Adresi/Address for Correspondence: Dr. Derya Yüksel Koçak, Hitit University, Faculty of Health Sciences. Department of Nursing, Çorum, Turkey. e-mail: deryayuksel.guvenc@hotmail.com
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INTRODUCTION

Menopause is defined as the permanent termination of menstruation as a result of the termination of ovarian activities [1]. Menopausal women experience some biological, psychological and social changes due to the estrogen deficiency resulting from the loss of ovarian activity and some symptoms caused by increasing age [2]. These symptoms can be listed as hot flashes, night sweating, vaginal dryness, insomnia, sexual problems, depression, anxiety, memory loss, fatigue, headache, muscle and joint pain, and weight changes [3].

The studies conducted so far have indicated that lifestyle behaviours in the postmenopausal period may increase the incidence and severity of menopausal symptoms [3-8]. For instance, it has been determined that women who are physically more active experience minor symptoms, whereas women with higher body mass index (BMI) experience more severe menopausal symptoms [9-12]. It is further stated that active and passive smoking during menopausal period increases hot flashes [3,9,10,12]. Moilanen et al. reported that menopausal symptoms were more common in women who drink alcohol and who do not do physical exercises whereas obese women with intense abdominal and subcutaneous fat have been reported to have more intense vasomotor symptoms [3,13,14]. As an example of studies on healthy lifestyle behavior education and menopausal symptoms, Ertem and Sirin, Tortumluoglu, and Nazari et al. found that menopausal symptoms were reduced through planned health education for women in the menopausal period [5,15,16]. According to Pender, healthy lifestyle is a part of health promotion and health promotion behaviours can be considered as nutrition, physical activity, self-actualization, health responsibility, stress management and interpersonal relationships [17,8].

Today, only medical approaches are not considered as sufficient to help women deal with menopausal symptoms, and it is emphasized that healthcare professionals should provide care with a multidisciplinary approach. It is also highlighted that women in the menopausal period should be assessed systematically and thoroughly before the medical treatment for the management of the menopausal symptoms and the determination of menopausal health problems they experience, and appropriate counselling should be given to solve the problems [18]. According to Pender's Health Promotion Model, one of the most important responsibilities of healthcare professionals is to guide the individuals during the planning, implementation and evaluation stages to protect and improve health. Nurses and other health professionals should undertake advisory roles to help menopausal women adopt healthy lifestyle behaviours [5,19].

This study aimed to determine the effect of health-promoting lifestyle education applied to menopausal women on reducing the menopausal symptoms during the menopausal period in accordance with Pender's Health Promoting Model.

MATERIALS AND METHODS

The study was conducted as a semi-experimental study with pre and post tests in a university hospital in Corum, a city in Turkey, between December 2015 and June 2016.

Hypotheses of the study were;

1. H_0: HPLE (Health-Promoting Lifestyle Education) applied in accordance with Pender's health promotion model increases the score of healthy lifestyle behaviours of postmenopausal women/affects their healthy lifestyle behaviours in a positive way.
2. H_0: HPLE applied in accordance with Pender's health promotion model reduces the menopausal symptoms of postmenopausal women.
3. H0: HPLE applied in accordance with Pender's health promotion model increases the level of self-efficiency/efficacy of women.

The target population included 80.368 women within the age range of 40-65 years living in Corum city center[20]. In the first stage of the research, with the formula of $n=N.t^2.p.q/d^2.(N-1)+ t^2.p.q$ and by setting the significance level at 0.05, p=0,5 q=0,5 and the strength of the test at 0.95044, the number of women to be selected for the study was found as 446[21]. Considering the fact that 89.29% of the women above 40 are in the menopausal period in Turkey, a basic calculation (446*0.8929=398.2334) was made and the minimum number of women to be selected was found as 398. The final sample of the study included 401 menopausal women[22].

In the second phase of the study, a power analysis was performed to determine the number of samples required to be divided into two groups as a control

and intervention group. Power analysis was performed in the Minitab statistical package program, and the mean difference between the control group and the intervention group was 8, the standard deviation was 10 and the strength of the test was taken as 0.88.

It was decided that 50 menopausal women should be in the experimental group, while there should be 50 menopausal women in the control group through randomization among women whose menopausal symptoms were severe according to the Menopause Rating Scale (MRS). However, the study was performed with a total of 64 menopausal women, 32 in the experimental group and 32 in the control group.

The inclusion criteria for the research were 1) being between 40 and 65 years of age, 2) not having early menopause (menopause age >40), 3) not having a psychiatric history or a mental disability, 4) not being under cancer treatment during the research period, 4) not taking Hormone Treatment (HT), 5) being literate, and 6) being volunteer to participate in the study.

Data collection tools

Data were collected using four different questionnaires.

Socio-demographic Information Form (SIF)

This form was prepared by the researchers in line with the literature [2,5,16] and it includes a total of 30 questions to obtain sociodemographic data about age, marital status, educational status, occupation status, spouse's age, spouse's education level, spouse's working status, social security status, level of monthly income, and family type as well as obstetric information such as years of marriage, the number of pregnancy, birth and curettage/abortus, and type of birth. The form also includes questions to obtain gynaecological information such as age, type and period of menopause, and questions regarding BMI, smoking habits, chronic illnesses, and health control behaviours.

Menopause Rating Scale (MRS)

The scale was developed by Schneider et al. in 1992 in order to measure the severity of menopausal symptoms. The first Turkish adaptation of the scale, the validity-reliability study, was conducted by Gurkan in 2004 [23,24]. The lowest score to be obtained from the scale is 0 and the highest score is 44. The increase in the total score indicates an increase in the severity of the complaints experienced [23].

Health Promoting Lifestyle Profile II (HPLP II)

This scale was developed by Walker et al. in order to assess the factors associated with healthy lifestyle and the effects of health promotion behaviours [5,25,26]. The first Turkish adaptation of the scale was made by Esin in 1997 [25]. The lowest score to be obtained from the scale is 52, while the highest score is 208 [27,28]. The increase in the total score indicates that the health behaviours of the individual are at the desired level [5,25,26].

Self-Efficacy Scale (SES)

The scale was developed by Sherer et al. in order to assess behaviours and behavioural changes.The first Turkish adaptation of the scale was made by Gozum and Aksayan in 1999.The lowest score to be obtained from the scale is 23 and the highest score is 115 [29]. The increase in the total score indicates that the perception of the self-efficiency/efficacy is high [5,29].

Procedure

Before collecting data from the participants, an informed written consent was obtained from the women who participated in the study, and written ethical permission was received from the Ethics Committee of the Medipol University where the research was conducted

In the first stage of the study, SIF and MRS were applied to 401 menopausal women, who agreed to participate in the research, in order to determine the women with intense menopausal symptoms. Before collecting the data, the participants were informed about the aim of the study. The questionnaires were administered before the consultation in the outpatient clinic of the hospital. On average, it took about 30 minutes for the participants to complete the questionnaires.

In the second stage of the study, women with intense menopausal symptoms according to their MRS score were divided into two groups: the experimental group who will receive HPLE and the control group. Power analysis was conducted to determine the number of participants in each group. 32 women were included in the experimental group and 32 women were included in the control group.

The table of random numbers was used to determine the persons assigned to the control group. Thus, the control group was randomized. As for the

experimental group, the MRS scale scores of the selected 401 unit sample were calculated, the MRS scores were ranked from the highest to the lowest and then the people who volunteered to participate in the second stage of the study were included in the experimental group.

The control group was randomized from 401 menopausal women using a random number table. As a result of the analyzes, it was found that the MRS scores of the control group were not statistically different from the MRS scores of 401 menopausal women. It was determined that the MRS pre-test scores of the control group and 401 unit research group were below the middle level.

The reason for not being randomized in the experimental group is to decrease the menopausal symptoms of women with high MRS scale scores and to increase the quality of life of menopausal women. Thus, the MRS scale scores of menopausal women in the experimental group were higher than the control group and the study group, showing the sinificant difference. As a result of the education, menopausal complaints of women with intense menopausal symptoms were reduced to the same or lower levels as the control and research group. Menopausal symptoms were reduced to low levels to match the general mass average of women with more intense menopausal symptoms. As a consequence, the study was a quasi-experimental study as the experimental group was not randomly selected.

Health-Promoting Lifestyle Education Program (HPLE) module

The contents of the education include the anatomy and physiology of the female reproductive organs, the definition and physiology of menopause, factors affecting menopause, healthy lifestyle behaviors to reduce menopausal symptoms and screening specific to women's health.

Based on the health promotion model, the recommendations of healthy lifestyle behaviors were considered as nutrition, physical activity, self-realization, health responsibility, stress management and interpersonal relationships. Healthy lifestyle suggestions for reducing menopausal symptoms were presented under each topic. The motivation to develop behavior was tried to be generated. The experimental group was given HPLE by the researcher, who is a specialist in nursing.

Health-Promoting Lifestyle Education Program (HPLE) has been applied to the experimental group once a week for a total of 2 times. The education lasted 60 minutes including 2 sections for 25 minutes and 10 minutes break.

The education programs were carried out by the researcher in the form of slide show, lecture, discussion and answer to the questions of the participants. Women were given leaflets after each education. The researcher prepared three different education leaflets. The participants are given the leaflets titled 'Healthy Life in Menopause' and 'Osteoporosis and Kegel Exercises' at the end of the first education and at the end of the second education they are given the leaflet titled 'Women's Cancer'.

Four weeks after the education was completed, all the menopausal women in the experimental group were visited in their homes, and the MRS, HPLP II and SES were applied to them again. The menopausal women in this group were reminded of the importance of maintaining the healthy life style behaviours through phone calls 6 months after all the education program was completed.

All the menopausal women in the control group were visited in their homes, and the HPLP II and SES were applied as pretests. Four weeks after the education was completed in the experimental group, the women in the control group were paid a visit at the same time with the post tests of the experimental group, and the MRS, HPLP II and SES were applied to them as posttests as well.

Statistical analysis

In the analysis of the data, SPPS 22.0 Minitab statistical programs and Excel program were used. Shapiro Wilk and Kolmogrov-Simirnov normality tests as well as skewness coefficient, coefficient of friction and graphical methods were used in order to determine the normal distrubition of data. As a result of the normality analysis, it was determined that the data of the research group, control group and intervention group were approximately normal, and as a result, it was decided to use parametric tests in the analysis.

Frequency and percentage, arithmetic mean±standard deviation, and t test were used as descriptive statistics.

RESULTS

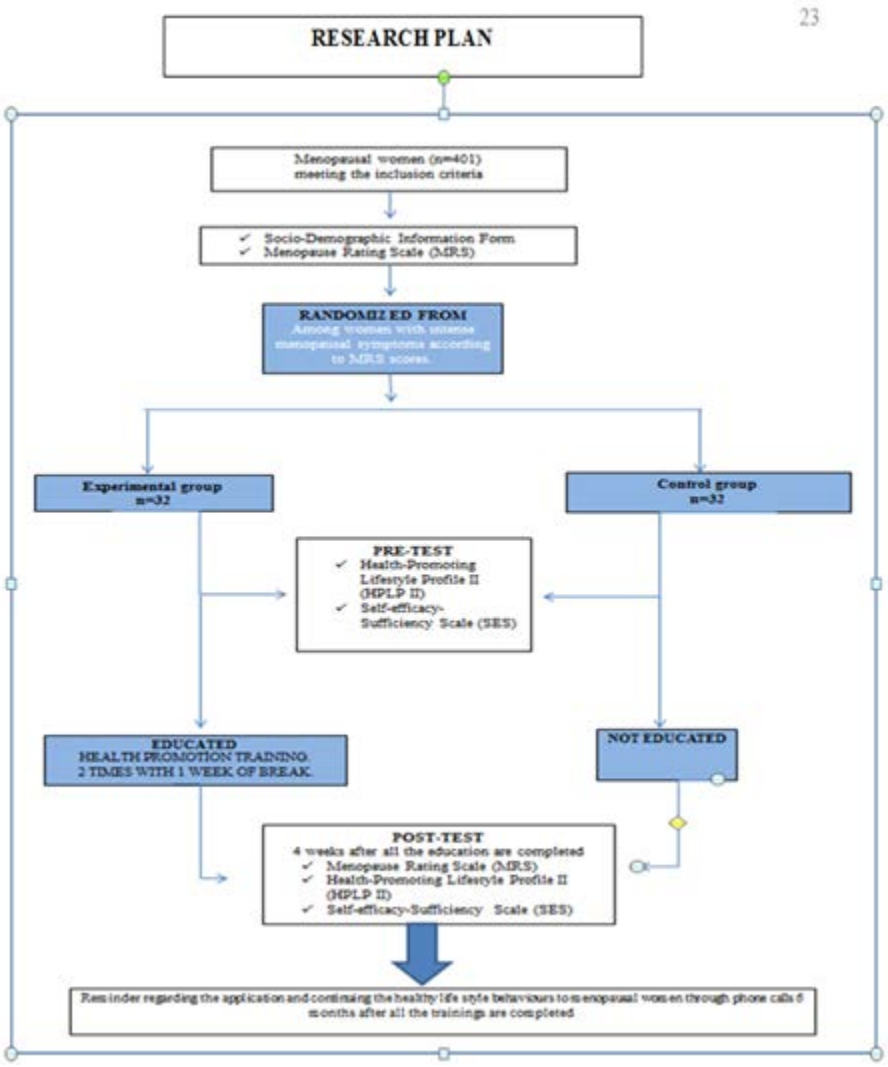

Figure 1 Research plan.

Table 1. Findings of menopausal women in experimental and control groups

Specifications		Intervention (n=32)		Control (n=32)		
		Number	Percent	Number	Percent	*p value
Age	40-44 45-49 50-54 55-59 60-65	3 9 8 9 3	9.4 28.1 25.0 28.1 9.4	0 0 19 5 8	0 0 59.4 15.6 25.0	0.001**
Level of Education	Elementary and below	19	59.4	21	65.6	0.117

	Secondary-high school Undergraduate/ Graduate+	13 0	40.6	8 3	25.0 9.	
Marital status	Married Single	26 6	81.2 18.8	24 8	75.0 25.	0.545
Employment status	Employed Unemployed	31 1	96.9 3.1	27 5	84.4 15.6	0.098
Social assurance	Yes No	25 7	78.1 21.9	28 4	87.5 12.5	0.320
Monthly income	1300 TL and less 1301-5200 TL 520 TL and more	9 22 1	28.1 68.6 3.1	8 21 3	25.0 65.6 9.4	0.582
Smoke intake	Yes No	28 4	12.5 87.5	7 25	21.9 78.1	0.320
Alcohol intake	Yes No	0 32	0 100	1 31	3.1 96.9	0.500
BMI	Normal Overweight Obese	2 14 16	6.2 43.8 50.0	2 14 16	15.6 34.4 50.0	0.439
Duration of marriage (Year)	1-14 15-29 30-44 45 and more	2 12 18 0	6.2 37.5 56.2 0	1 8 22 1	3.2 25.8 67.7 3.2	0.503
Education of Spouse*(n=334)	Elementary and below Secondary-high school Undergraduate/ Graduate+	13 13 □6	40.7 40.7 18.5	11 15 6	33.3 45.8 20.9	0.861
Employment status of spouse*(n=334)	Employed Unemployed	18 14	55.6 □4.4	23 9	70.8 29.2	0.260
Family members living with	Alone/with spouse With spouse and children With children With spouse. children and relatives	9 17 2	28.1 53.1 6.2 12.5	11 13 6 2	34.4 40.6 18.8 6.2	0.334
Individual(s) in need of care	available n/a	4 2	12.5 87.5	6 26	18.8 81.2	0.491
Age of menarch	8-10 11-14 15-18	0 27 5	0 84.4 □5.6	0 28 4	0 87.5 12.5	0.500
Number of pregnancy	0 1-3 4 and more	2 17 13	6.2 53.1 40.6	3 15 14	9.4 46.9 43.8	0.834
Number of children	0 1-3 4 and more	2 36 4	6.2 81.2 12.5	3 25 4	9.4 78.1 12.5	0.896
Abortion status	available n/a	22 10	68.6 31.2	22 1	68.8 31.2	1.000
D&C status	available n/a	20 12	62.5 37.5	20 12	62.5 37.5	1.000

Type of birth	Nullipar Vaginal birth Cesarean Vaginal birth+ cesarean	 1 25 4 2	 3.1 78.1 12.5 6.2	 3 25 4 0	 9.4 78.1 12.5 0	0.392
Type of menopause	Natural Surgery	46 18	71.9 28.1	54 10	84.4 15.6	0.226
Age of menopause	35-39 40-44 45-49 50-57	14 16 26 8	21.9 25.0 40.6 12.5	8 6 24 26	12.5 9.4 37.5 40.6	0.048**
HT	available n/a	6 58	9.4 90.6	2 62	3.1 96.9	0.306
Menopausal knowledge	available n/a	40 24	62.5 37.5	50 14	78.1 21.9	0.171

*t test **p<0.01

Table 2. MRS pre-test and post-test scores of women

MRS Sub-dimensions	All participants (N=401)	Control Group Ave. ± Sd (n=32)		Test Value	Experimental group Ave. ± Sd (n=32)		Test Value
	Ave. ± Sd	Pre-test	Post- test	p	Pre-test	Post- test	p
Somatic symptoms	3.05±2.03	3.28±2.11	3.28±1.78	1.000	4.34±1.86	2.97±1.93	0.000**
Psychological symptoms	9.81±5.24	10.16±4.69	10.31±5.13	0.813	14.59±4.35	10.38±4.84	0.000**
Urogenital symptoms	3.33±2.77	3.16±2.38	3.28±2.37	0.726	5.38±2.49	3.56±2.73	0.003**
Total	16.19±8.61	16.59±7.22	16.88±7.75	0.791	24.31±6.65	16.91±7.99	0.000**

** Significant at 0.01.; Paired 2 Samples T test

In the study, the experimental and control groups were compared in terms of the socio-demographic characteristics, ginekoobstetric properties and menopausal features and a statistically significant difference was only found between the groups only in their ages and menopause ages ($p \leq 0.001$ and $p > 0.05$). According to this, 59.4% of the women in the control group and 25% of the women in the intervention group were in the 50-54 age group. It was determined that the age of women in the experimental group was younger.

The MRS scale scores of the women in the experimental group were higher and the menopausal symptoms were more severe, supporting the decrease of menopausal symptoms as the age increased. Also, 40.6% of the women in the experimental group and 37.5% of the women in the control group were menopausal between the ages of 45-49. It was again observed that women in the experimental group entered menopause at an earlier age. This finding indicates that women in the experimental group with a smaller age at menopause had higher MRS scale scores and therefore had more severe menopausal symptoms.

The results of our study revealed that the mean scores the menopausal women received from MRS and its sub-dimensions were 3.05±2.03 for the somatic sub-dimension, 9.81±5.24 for the psychological sub-dimension, and 3.33±2.77 for the urogenital sub-dimension. The MRS total mean score of women was found to be 16.19±8.61 (Table 2).

In the study, the mean scores of the menopausal women from HPLP II and its sub-dimensions were 25.79±5.57 for self-actualization sub-dimension, 25.98±5.01 for interpersonal relations sub-dimension, 21.57±5.45 for health responsibility sub-dimension, 15.05±5.29 for physical activity sub-dimension, 22.22±4.44 for nutrition sub-dimension,

and 19.10±4.84 for stress management sub-dimension. The total HPLP II score was found to be 129.70 ± 24.38 (Table 3). In the study, the mean scores the menopausal women received from SES and its sub-dimensions were 29.75±5.87 for initiating behaviour, 25.60±5.04 for maintaining the behaviour, 18.70±4,46 for completing the behaviour, and 8.98±2.56 for dealing with obstacles. The total mean score of women in SES was found to be 83.03±12.22 (Table 4).

Table 3. HPLP II pre-test and post-test scores

HPLP II Sub-dimensions	All participants (N=401)	Control Group Ave. ± Sd (n=32)		Test Value	Experimental group Ave. ± Sd (n=32)		Test Value
	Ave. ± Sd	Pre-test	Post- test	p	Pre-test	Post- test	p
Health Responsibility	21.57±5.45	21.59±4.41	20.88±2.60	0.315	22.81 ± 4.63	22.63±5.70	0.864
Physical Activity	15.05±5.29	15.97±5.25	17.53±3.46	0.136	15.22 ± 6.05	15.19±4.60	0.974
Nutrition	22.22±4.44	22.53±4.10	21.97±3.29	0.510	22.94 ± 3.59	23.60±4.16	0.456
Self-actualization	25.79±5.57	26.03±5.10	24.75±3.58	0.172	25.44 ± 5.13	26.13±4.44	0.571
Interpersonal Relations	25.98±5.01	26.34±4.70	23.66±3.35	0.001**	26.31 ± 4.53	26.97±3.68	0.535
Stress Management	19.10±4.84	18.06±4.38	18.97±2.94	0.272	18.75 ± 5.38	18.09±3.95	0.507
Total	129.70±24.38	130.53±21.53	127.75±13.67	0.464	131.47± 21.95	132.60±17.02	0.812

** p<0.01; b Paired 2 samples t test

Table 4. SES pre-test and post-test scores

SES Sub-dimensions	All participants (N=401)	Control Group Ave. ± Sd (n=32)		Test Value	Experimental group Ave. ± Sd (n=32)		Test Value
	Ave. ± Sd	Pre-test	Post test	p	Pre-test	Post test	p
Initiating behaviour	29.75±5.87	25.47 ± 4.94	25.41 ± 4.87	0.940	26.97±4.29	27.44±5.04	0.637
Maintaining behaviour	25.60±5.04	29.50 ± 6.49	29.50 ± 6.06	1.000	31.34±4.70	30.78±6.54	0.657
Completing behaviour	18.70±4.46	18.16 ± 4.85	18.03 ± 4.58	0.865	18.38±3.84	20.06±4.21	0.116
Dealing with Obstacles	8.98±2.56	8.81 ± 2.62	8.78 ± 2.88	0.924	8.97±1.94	9.31±2.53	0.572
Total	83.03±12.22	81.94±14.92	81.69±13.99	0.889	85.66±11.20	87.60±14.11	0.477

Paired 2 Samples T test

While there was no statistically significant difference between pre-test and post test MRS total scores and MRS sub-dimension scores of the menopausal women in the control group, the pretest and posttest MRS total scores and scores from all the sub-dimensions of MRS were significantly different in the experimental group (Table 2). It was found that the menopausal women in the control group had a statistically significant difference only in the pretest and post test scores for the interpersonal relations sub-dimension of HPLP II. On the other hand, a statistically significant difference was observed in the pretest and post test HPLP II scores and all the HPLP II sub-dimension scores of the menopausal women in the experimantal group (Table 3).

There was no statistically significant difference between the pretest and post test SES scores and SES sub-dimension scores of the menopausal women in the control group. Similarly, there was no statistically significant difference between the pretest and post

test SES scores and SES sub-dimension (initiating the behavior, maintaining the behavior and dealing with obstacles) scores of the menopausal women in the experimental group (Table 4). The only statistically significant difference was observed between the pre-test and post-test scores for the subdimension of completing the behavior in the experimental group.

DISCUSSION

The average MRS total and MRS sub-dimension scores found in our study are consistent with the findings of other studies conducted in Turkey [24,30-33]. Thus, it can be said that the menopausal women in our study reported similar menopausal complaints to those in other studies.

The reason why there was a statistically significant difference between the MRS scores and MRS subdimension scores of the experimental group is the HPLE for menopausal women. After the HPLE, there was a decrease in the total MRS score of the menopausal women and in somatic, psychological, and urogenital symptom sub-dimensions. The studies conducted so far have also shown that the menopausal symptoms of the women in the experimental group reduced after the healthy life education program[34,35]. Boga Mumcu found that education given to postmenopausal women, who had undergone surgical menopause, was effective in reducing the menopausal symptoms[36]. In a study carried out in order to determine the effect of healthy lifestyle education on menopausal symptoms in women aged 40-65 years, Nazari et al. found that there was a statistically significant difference between the MRS pre-test and post test score averages of the intervention group and that the MRS score decreased Research[16]. In their study carried out with menopausal women, Sehhatieshafaie et al. found that the menopausal symptoms of the experimental group decreased after a 3-week health-study program [37].

In their study carried out with menopausal women, Patel and Kim et al. also found that healthy lifestyle education had a positive effect on reducing the symptoms experienced by menopausal women and on increasing their awareness of menopause [38,39]. Rindner et al. conducted a study with 131 menopausal women aged 45-55 years with the aim of reducing the menopausal symptoms in primary health care services, and found that group education for menopausal women was effective in reducing the menopausal symptoms[40]. As a result, it can be said that health promotion education for menopausal women is an effective way to reduce the somatic, psychological, and urogenital menopausal symptoms of women. This result confirms the hypothesis of Pender indicating that "HPLE in the direction of HPM reduces the menopausal symptoms of women in the postmenopausal period."

In the study, while HPLP II did not lead to a statistically significant difference, it was observed that physical activity and nutrition subdimension scores and the total HPLP II scores increased after HPLE. In the study conducted by Tortumluoglu, the HPLP II pre-test score was found as 96.32±15.51, whereas the post test score was determined as 126.62±13.62, and the difference was found to be statistically significant [5]. Nazari et al. found that there was a statistically significant difference between the HPLP II total and sub-dimension pre- test and post test scores in the experimental group, and that the HPLP II score increased [16]. Also, Anderson found that a 12-week healthy lifestyle education applied to postmenopausal women was effective in increasing health behaviours and reducing menopausal symptoms[12].

The findings of our study were not similar to the findings of some other studies. It was determined that although the HPLE applied to the experimental group increased the total HPLP II scores of menopausal women, it did not have a statistically significant effect on the HPLP II total and sub-dimension scores. This result rejects the hypothesis of Pender which indicates that "HPLE implemented in the direction of the HPM increases the score of healthy lifestyle behaviours in postmenopausal women/affects healthy lifestyle behaviours in a positive way."

It was also found that there was no statistically significant difference between the pre-test and post-test total SES scores and initiating the behavior, maintaining the behavior, and dealing with obstacles subdimension scores of the menopausal women in the experimental group, whereas a statistically significant difference was found between the pre-test and post-test scores pertaining to the subdimension of completing the behaviour. It can be said that after the HPLE, the score for completing the behaviour sub-dimension increased significantly. Similar to the findings of our study, in the study conducted by Tortumluoglu, the SES pre-test and post test scores were found as 78.72±15.27 and 84.74±14.35,

respectively, and the difference was not considered as statistically significant [5].

Our literature review showed that no other empirical studies have yet examined the level of self-efficiency/efficacy in Turkey. Thus, the hypothesis indicating that "HPLE implemented in the direction of the HPM increases the level of self-efficiency/efficacy of women" is rejected. Our study revealed that HPLE is effective in decreasing the menopausal symptoms of women, and although not statistically significant, it increases the HPLP II and SES scores.

It is recommended that nurses should be aware of the psychological, urogenital and somatic menopausal symptoms experienced by menopausal women, and plan and implement appropriate nursing interventions for the diagnosis and reduction of symptoms. Furthermore, they should assume education and counselling roles for more effective symptom management.

It will be beneficial for nurses to integrate healthy lifestyle behaviours into the health education they perform while providing education and counselling for women who are in their menopausal period. Besides, it is recommended that nurses should conduct studies with a larger sample of women in their menopausal period in order to determine the deficiencies in their knowledge and the areas about which they need counselling.

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