

Original Paper


# The Effectiveness of Husbands' Awareness of Menopausal Complications on Physical Psychological Experiences of Postmenopausal Women



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## ABSTRACT

**Introduction:** Women are subject to extensive changes during menopause. Life crises such as menopause can affect women's health and is a turning point in their lives. The husbands are the most important and closest people who can support their wives in this evolutionary crisis with their correct understanding of the situation.

**Objective:** This study aimed to determine the effectiveness of husbands' awareness of the physical and psychological experiences of postmenopausal women.

**Materials and Methods:** This randomized clinical trial study was performed on 150 married postmenopausal women in Kashmar City, Iran, in 2019. The husbands of the intervention group received three sessions (60 minutes) of the menopause training program with one-week intervals. The spouses of both groups received routine care at the health center. The questionnaire of psychological and physical experiences of postmenopausal women and measuring men's awareness of menopause in both groups was completed before the intervention and one month after the intervention. The collected data were analyzed using descriptive statistics and inferential statistics of the Chi-square, paired t-test, independent t-test, and analysis of covariance.

**Results:** The Mean±SD age of women in the intervention group was 51.13±2.68 years, and their Mean±SD menopausal age was 49.09±2.60 years. The Mean±SD score of menopausal experiences before the intervention was 144.99±38.09 in the intervention group and 143.47±28.48 in the control group and 105.53(35.41) in the intervention group, and 118.82 (82.21) in the control group. The statistical test showed that the mean score of menopausal experiences and the range of adaptation after the intervention and also between the two groups have statistically significant differences with each other (P=0.001).

**Conclusion:** Menopause has adverse physical and psychological symptoms. An intervention program to increase the awareness of men during menopause reduces negative menopausal experiences in women.

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## Highlights

- Menopause is a period in a woman's life whose effects and consequences can be reduced with the support of family, relatives, and friends and consequently improve the women's quality of life.
- Husbands' awareness of menopausal complications can affect the physical and psychological experiences of postmenopausal women and their health problems.
- Factors affecting the experiences of postmenopausal women include the health structure, current conditions, education, and the presence of the husband in the health center.

## Plain Language Summary

This study aimed to determine the effectiveness of husbands' awareness of the physical and psychological experiences of postmenopausal women in Kashmar City, Iran. Menopausal complications lead to health problems and health system budget expenditures. Identifying functional problems in postmenopausal women and meeting the health needs of individuals and society is one of the main the main mission of the health system. Due to the preventability of menopausal complications, the first step is education, and the next step is their correct management. Educating people about coping skills and adherence to supportive resources can increase their ability to access the social resources needed to maintain mental health and resist the trauma of life-threatening events. One of the most critical factors in this period is the husband's emotional support and understanding of his wife. In this study, implementing a training program on menopausal complications for husbands significantly reduced the average score of menopausal experiences on different scales in terms of anxiety, psychological, physical, emotional, attitude, and adjustment after the intervention. Also, the study results showed that if the husband of a postmenopausal woman has enough information about menopause or the physical and mental condition and changes caused by menopause, his wife experiences less physical and psychological changes caused by menopause. The study results helped reduce the problems of postmenopausal women and provide better health services, reduce the cost of health care for people, and the husband's understanding of menopause. In the current economic, political, and social conditions, it is necessary to pay sufficient attention to reduce women's experiences with husbands' support.

## Introduction

**A**s essential members of society, women comprise half of the world's population and are the largest health care recipient [1]. With the increase in the life expectancy of women in the world, the number of postmenopausal women and the years they spend after menopause have increased too [2]. Also, due to the global trend of population aging, women's health around menopause is becoming a significant health issue [3]. Menopause can affect women's health, but women cannot feel it in the same way, and factors such as mental state, emotional health, and cultural and social context are involved [4]. Menopause is defined as the last menstrual period followed by 12 months of amenorrhea [5-7]. During menopause, the ovarian function ends [8], and if a woman reaches the age of 50, she will have to spend the next few years of her life in a state of estrogen deficiency, which can cause endocrine, physical (somatic), and psychological changes

[9]. Physical, mental, social, and psychological changes, in the long run, cause cardiovascular diseases, osteoporosis, and bone fractures [10, 11]. The combination of these changes, along with the mood disorders caused by them [12], highlights the importance of taking care of the health of postmenopausal women.

Menopause is a period in a woman's life that its effects and consequences can be reduced with the support of family, relatives, and friends that consequently improves the women's quality of life [13]. The support of influential people such as the husband is the best predictor of menopausal experiences, and by increasing the level of social support, the physical and emotional problems of postmenopausal women can be reduced [14]. Experiences mean the information gained from any physical or psychological event in personal life [15]. The husband is the most important and closest person who can support the menopausal woman in this evolutionary crisis with a correct understanding of the situation and problems created for her [16]. Although having enough informa-

tion and knowledge about menopause is necessary for social support, unfortunately, husbands' knowledge about menopause is very little [17]. Menopausal education for husbands as the most important source of women's social support can affect women's perception of social support [18]. Therefore, planning educational programs about menopause for their husbands can lead to sufficient support for women in the postmenopausal years [19]. Many men find their wives attractive at this age and also understand the changes associated with that age. But most of them do not help women to cope with these changes [20]. Items such as lack of information, lack of good reaction of postmenopausal women to their husbands about menopause, financial and sexual problems can affect the ability of husbands to support their wives during menopause [21, 22]. Increasing husbands' awareness of menopause can increase support for menopausal women. Considering the necessity and importance of promoting women's health in menopause, we conducted this study to determine the effectiveness of husbands' awareness of menopausal complications on the physical and psychological experiences of postmenopausal women in Kashmar.

## Materials and Methods

This study is a two-group randomized clinical trial study (intervention and control) performed on 150 postmenopausal women aged 45-55 years in Kashmar between July 2018 and February 2019. The study population consisted of all postmenopausal women referring to health centers in Kashmar City, Iran, who refer to health centers to receive services according to the national protocol.

Cluster random sampling was used to enroll the study participants. Based on this method, five centers were randomly selected in Kashmar City, and three centers were randomly assigned to the intervention group and two centers to the control group. Available samples were taken from each center proportionate to the number of clients.

To determine the sample size, we conducted a pilot study on 30 people, and the means in two independent groups in terms of total menopausal experience scores were compared. Then, with 95% confidence interval and 80% test power and considering Mean $\pm$ SD total menopausal experience scores of 115.2 $\pm$ 24.25 in the pilot control group and 104.81 $\pm$ 19.34 in the pilot intervention group and taking into account 5% dropout, 75 people were determined in each group and a total of 150 people in the two groups.

The inclusion criteria include completing the consent form; being postmenopausal women 45-65 years old; having Iranian citizenship; living in Kashmar with their husbands; passing one year after the last menstrual period; lacking psychological illness, alcohol consumption, drugs, accidents during the last 6 months, surgery or removal of the ovaries and uterus; not using hormonal drugs; trainability of their husbands; and not receiving education about menopause or reading books or pamphlets on menopause (based on self-report). The exclusion criteria included illness during the study, more than one session of attending training classes for the husband, and the occurrence of an accident during the study (Figure 1).

Data collection tools included the demographic questionnaire of women, the knowledge of husbands about menopausal experiences, and measuring the physical and psychological experiences of women during menopause. The researcher-made demographic questionnaire included questions about age, employment status, education, and midwifery characteristics (number of pregnancies, number of deliveries, number of children, menstrual age, menopausal age, duration of menopause) and a questionnaire for assessing the awareness of postmenopausal women. It contained 26 items scored on a 3-point Likert-type scale about the nature and effects of menopause, with 1 point for a correct answer and a 0 point for each incorrect answer or "I do not know" option. Therefore, the range of husbands' awareness scores is between 0 and 26. A score of less than 26 indicates less awareness. Assessment of women's experiences in menopause was determined using a questionnaire designed by Simbar et al. [23]. This questionnaire includes 44 items in 6 domains of concern (12 items), psychological effects (10 items), physical effects (11 items), negative emotions (5 items), negative attitudes (4 items), and adaptation (2 items). All expressions are scored on a 5-point Likert-type scale (never, low, medium, high, very high) from 0 to 4. The total score will range between 0 and 176, calculated as a percentage. Getting a higher score means more complications. The validity of the form "women's personal characteristics", "husbands' awareness of menopausal experiences", and "assessment of physical and psychological experiences" was determined by the content validity method. These instruments were validated by 10 faculty members of Mashhad University of Medical Sciences. The reliability of the instruments "assessment of physical and psychological experiences" and "husbands' awareness of menopausal experiences" was performed using a pilot study on 20 postmenopausal women and their husbands. Regarding the tool "mea-

surement of physical and psychological experiences" using the equivalence reliability method, the stability of the instrument was estimated to be 0.79, and the internal consistency of the instrument was estimated to be 0.97 using the Cronbach alpha coefficient. The reliability of the instrument "husbands' awareness of menopausal experiences" the similarity of the answers in the two stages of the question was more than 0.82 cases.

After approval of the Vice-Chancellor for Research and the Ethics Committee of the University, the researcher went to health centers to recruit the samples. First, the study objectives and procedure and information confidentiality were explained to postmenopausal women, and their husbands were invited to attend the center. Written consent was obtained from the participants. Then, women and their husbands were given a questionnaire to assess the experiences of women in menopause.

Next, based on the adjusted educational program, a researcher with the educational experience provided 3 sessions of group training and 1-h face-to-face lectures (on the nature, symptoms, and complications of menopause) for the husbands of the women in the experimental group at weekly intervals in the meeting hall of the health center and also gave them an educational pamphlet on menopause (Table 1). However, the women in the control group were received only the routine care program of the health center (i.e., blood pressure, weight, nutrition, mobility, measurement of fat, blood sugar, hemoglobin, and hematocrit).

One month later, a health liaison referred to the samples, and all the women in the two groups completed the "physical and psychological experience assessment" tool, and their husbands completed the "awareness assessment form." The researcher provided the samples with a telephone number to contact if they had any questions about the research. After entering the data

into SPSS v. 25, frequency tables were used to describe the data, and the Chi-square, independent t-test, paired t-test, and analysis of covariance were used to analyze the data. The normality of data distribution was assessed using the Smirnov-Kolmogorov Smirnov test.  $P < 0.05$  was considered a significant level.

## Results

The present study was performed on 150 (75 in the intervention group and 75 in the control group) postmenopausal women referring to health centers in Kashmir City, with a Mean $\pm$ SD age of 51.13 $\pm$ 2.68 years of women in the intervention group and 51.11 $\pm$ 2.62 years in the control group. The age of clients, number of pregnancies, number of deliveries, number of children, number of abortions, age of child death, age of menarche, age of menopause, and duration of menopause were not statistically significantly different between the two groups (Table 2).

All the women in the study were natives of Kashmir and Iranian and lived with their husbands. More information about the qualitative demographic variables of the study participants is presented in Table 3.

The Mean $\pm$ SD scores of menopausal experiences were 144.99 $\pm$ 38.09 in the intervention group and 143.47 $\pm$ 28.48 in the control group before the intervention and 105.53 35.41 in the intervention, and 118.29 $\pm$ 82.21 in the control group after the intervention. Statistical tests showed that the mean scores of different dimensions of menopausal experiences after the intervention and also between the two groups were significantly different. Besides, the results showed that the Mean $\pm$ SD score of men's knowledge in the intervention group was significantly higher before the intervention 29.57 $\pm$ 4.72 and after the intervention 46.67 $\pm$ 9.35 ( $P=0.001$ ) (Table 4). The analysis of

**Table 1.** Titles of menopause complications training sessions

Sessions	Educational Contents	Targets
First	Pretest, introduction to group members and familiarity with the general program, definition of menopause, and related factors.	Familiarize group members with each other and the general program Familiarity with the physiology, complications, and common symptoms of menopause and ways to reduce the common complications of that period.
Second	Awareness of physical, psychological, and sexual changes during menopause.	Creating a positive image of people towards their spouse, sex education to spouses.
Third	Teaching how to understand the situation of the spouse and establish a positive relationship with him, a summary of all the meetings and discussions about the content presented.	Getting rid of negative perceptions and find solutions to deal with the problems and complications of menopause, make decisions about important issues in life, mutual understanding between spouses.

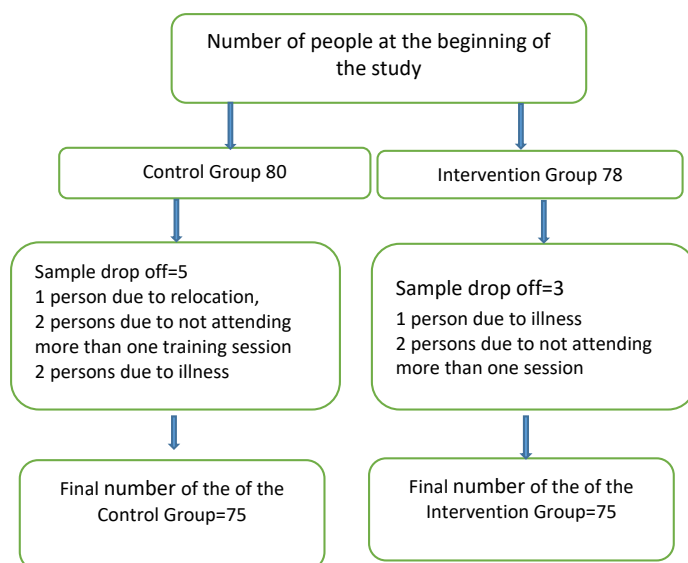


Figure 1. Flowchart of the sampling process of postmenopausal women

covariance on the effect of educational intervention on menopausal experiences and its domains confirmed the significant effect of the intervention on reducing these experiences (Table 5).

### Discussion

This study aimed to determine the effect of teaching menopausal complications to husbands in Kashmar. The present study results showed that their mean score of postmenopausal knowledge has increased after training. The overall score of menopausal experiences

compared to before the intervention was also shown. Besides, the mean score of different dimensions of physical and psychological experiences of postmenopausal women decreased after the intervention.

Educating people in adulthood about coping skills and adherence to supportive resources increases their ability to access the social resources needed to maintain mental health and resist trauma from stressful life events [24]. Men, on the other hand, may experience a lot of stress during their wives' menopause, including the reduced female sexual response. Facing these ten-

Table 2. Distribution of quantitative variables of study participants

Variables	Mean±SD		Sig.*
	Intervention	Control	
Age (y)	51.13±2.68	51.11±2.62	0.951
Number of pregnancies	5.52±2.48	5.19±2.02	0.369
Number of deliveries	5.04±1.79	4.67±1.82	0.207
Number of children	4.76±1.85	4.56±1.88	0.512
Number of abortions	0.43±0.90	0.49±0.83	0.638
Age of child death (y)	0.13±0.34	0.16±0.44	0.678
Menarche age (y)	12.36±1.36	12.25±1.46	0.645
Menopausal age (y)	49.09±2.60	49.08±2.53	0.975
Menopause duration (y)	2.25±1.34	2.04±1.14	0.295

\*Independent t-test.

**Table 3.** Demographic information of the study participants

Variables	No. (%)		Sig.	
	Intervention	Control		
Education	Illiterate	21 (28)	18 (24)	0.913 *
	Primary	35 (46.7)	33 (44)	
	Guidance school	14 (18.7)	17 (22.7)	
	Secondary	4 (5.3)	6 (8)	
	University	1 (1.3)	1 (1.3)	
Job	Manual worker	21 (28)	1 (13.3)	0.108 *
	Employee	17 (22.7)	25 (33.3)	
	Housewife	23 (30.7)	28 (37.3)	
	Retired	26 (17.3)	12 (16)	
Spouse job	Manual worker	20 (26.7)	7 (9.3)	0.012 *
	Employee	10 (13.3)	18 (24)	
	Self-employed	31 (41.3)	27 (36)	
	Retired	14 (18.7)	23 (30.7)	
Spouse education	Illiterate	42 (56)	44 (58.7)	0.156**
	Primary	15 (20)	22 (29.3)	
	Guidance school	13 (17.3)	8 (10.7)	
	Secondary	5 (6.7)	1 (1.3)	
Type of house	Owned	60 (80)	54 (72)	0.257 *
	Rented	14 (18.7)	21 (28)	
	Other	1 (1.3)	0 (0.0)	
Income level	Low	31 (41.3)	17 (22.7)	0.019 **
	Moderate	40 (53.3)	47 (62.7)	
	High	4 (5.3)	11 (14.7)	

\* Chi-square test; \*\* Fisher exact-test.

sions and the low husband's information about menopause may interfere with their support for wives [21]. Caçapava et al. concluded that more than 25% of husbands have no or little information about menopause [25]. Of course, men cannot be studied in this field and be ashamed to ask questions in this case. Also, due to poor access to education in the city of Kashmar and the deprivation of this region compared to metropolises, this restriction is more visible.

Also, women during menopause, due to the end of ovarian function, undergo physical, psychological, hormonal, and social changes that make them face many difficulties in interacting with their husbands and enduring these changes [5]. In this study, implementing an educational program and teaching menopausal complications to husbands in the intervention group showed a significant decrease in the mean total score of menopausal experiences after the intervention. This finding confirms that when the husband of a postmenopausal woman

**Table 4.** Mean±SD of menopausal experiences and their domains

Variables	Therapy	Mean±SD		Sig.**
		Before the Intervention	After the Intervention	
Worry	Intervention	38.17±12.97	26.85±12.68	0.001
	Control	38.65±8.72	32.49±7.61	0.001
	Sig.	0.53	0.001*	-
Psychological complications	Intervention	36.45±12.06	24.41±10.14	0.001
	Control	34.75±7.85	27.07±5.99	0.001
	Sig.	0.16	0.001*	-
Physical complications	Intervention	33.23±8.40	24.75±8.62	0.001
	Control	35.29±7.20	29.17±6.56	0.001
	Sig.	0.11	0.001*	-
Emotions	Intervention	18.69±9.60	12.07±4.37	0.001
	Control	18.29±5.90	14.12±3.27	0.001
	Sig.	0.36	0.001*	-
Attitude	Intervention	13.68±3.75	11.43±6.04	0.001
	Control	13.45±3.16	11.44±3.22	0.001
	Sig.	0.27	0.011*	-
Compatibility	Intervention	4.76±2.45	6.03±2.13	0.001
	Control	4.00±1.23	3.03±1.00	0.001
	Sig.	0.18	0.001*	-
Total menopausal experiences	Intervention	144.99±38.09	105.53±35.41	0.001
	Control	143.47±28.48	118.29±21.82	0.001
	Sig.	0.62	0.001*	-

\* Independent t-test; \*\* Paired t-test.

gains more information about his spouse’s physical and mental condition, he will better understand and support his wife [17]. Similarly, Shariat Moghani et al. reported that social support for postmenopausal women, especially from their husbands, reduces menopausal experiences. In other words, by increasing social support from various sources, the physical and emotional problems of the wives can be avoided [14]. The present study results on increasing the support and understanding of menopausal women’s husbands are consistent with the above study’s findings. The present study showed that menopausal face-to-face training for husbands reduced the mean score of various dimensions of postmeno-

pausal women’s physical and psychological experiences after the intervention. So there was a significant difference between them. Siobán also reported that teaching the symptoms of menopause to the husbands of postmenopausal women reduces anxiety and depression in these women significantly [19]. Implementing educational programs and increasing men’s awareness for the proper understanding of the wife increases the social support perceived by women and promotes their health. In general, the social support received from the husband has beneficial effects on a woman’s physical and mental health, and satisfaction with social support prevents depression, stress, sadness, anxiety, and physi-

**Table 5.** Results of analysis of covariance, the score of total menopausal experience and its domains

Variables	Stages	Mean of Squares	Sum of Squares	F	Sig.
Worry	Intervention Group	9677.49	9677.49	263.83	0.001
	Score before the intervention	8673.93	17347.88	239.47	0.001
Psychological complications	Intervention Group	6496.38	4696.38	103	0.001
	Score before the intervention	3449.77	6899.54	54.69	0.001
Physical complications	Intervention Group	6284.68	6284.68	180.20	0.001
	Score before the intervention	4185.19	8370.38	120.00	0.001
Emotions	Intervention Group	1896.22	1896.22	81.19	0.001
	Score before the intervention	1007.47	2014.91	43.13	0.001
Attitude	Intervention Group	415.96	415.96	23.03	0.001
	Score before the intervention	467.98	935.97	25.91	0.001
Compatibility	Intervention Group	255.67	255.67	125.62	0.001
	Score before intervention	224.10	448.21	110.11	0.001
Total menopausal experiences	Intervention Group	110976.71	110976.71	264.68	0.001
	Score before intervention	72567.97	145135.95	173.07	0.001

cal symptoms in old age in postmenopausal women [26]. Also, understanding the symptoms and problems of postmenopausal women and their support from those around them, especially the husbands who have a more interactive relationship with wives, positively improves their psychological condition [14]. One beneficial effect of social support is lowering people's stress [27]. With increasing depression, anxiety, and stress, the score of menopausal experiences in postmenopausal women also increases [28]. Overall, it is necessary to design an educational program about menopause and its complications for menopausal women to promote the mental health of postmenopausal women and their families and subsequently reduces the country's health budget in this regard [29, 30].

Menopause, with its many complications, has adverse effects on the quality of life of postmenopausal women. Teaching menopausal complications to husbands increases men's awareness of menopausal symptoms. Since the husband is the closest person who can understand the menopausal woman's problems and support her in this crisis and change, it is recommended that free training programs be offered to men whose wives are premenopausal or menopausal and deal with its problems.

In the present study, the mean score of menopausal experiences and its domains in the control group whose husbands were not trained showed a significant decrease after the intervention. This issue can show the effect of the questionnaire in studies and be considered a limitation because women did not react to these symptoms until they faced the menopause experience questionnaire and lack of information about it. But after learning the areas of menopausal experience, they showed a greater understanding of it, presenting a decrease in the score. Also, about half of the people in both groups were illiterate, which is a limitation of this study. But with the implementation of face-to-face training, this restriction was controlled, and men's awareness increased as expected.

## Ethical Considerations

### Compliance with ethical guidelines

This study results from a student project in the field of midwifery education in Mashhad School of Nursing and Midwifery, Mashhad University of Medical Sciences in clinical trial (Code: IRCT20180509039595N2 and Ethics Code: ID IR.MUMS.NURSE.REC.2018.011).



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## Authors' contributions

Methodology: Sedigheh Shariat Moghani; Data collection: Mahdieh Ebrahimzadeh; Writing – original draft: Sedigheh Shariat Moghani and Mahdieh Ebrahimzadeh; Data analysis: Jamshid Jamali, and Ali Safari; Final review: All Authors.

## Conflict of interest

The authors declared no conflict of interest.

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