Menopause Knowledge Levels of Women in the Climacteric Period and Their Attitudes Towards Menopause

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Abstract

Objective: This study aimed to determine the menopausal awareness and knowledge levels of women aged 40–65 in the climacteric period, and examine the symptoms of menopause and the relationship with their attitudes towards menopause. Method: Included in this study were 224 women, who applied to Obstetrics and Family Medicine outpatient clinics. The Sociodemographic Information Form, Menopause Information and Awareness Form, Menopause Attitude Assessment Scale (ATMS), and Menopause Rating Scale (MRS) were applied to the participants. Results: Of the participants, 71.0% had gone through menopause, whereas 21.0% had not, and 8.0% did not know whether they had gone through menopause or not. The mean age of the women who had gone through menopause was 47.79±4.5 years. While the mean ATMS score was 43.97±10.93, 37.9% of the women had a negative attitude (40 points and below). The mean MRS somatic complaint score was 6.43±3.74, the mean psychological complaint score was 6.21±4.09, and the mean urogenital complaint score was 3.88±2.65. There was a moderately significant negative correlation between their ATMS scores and their menopause-related psychological complaints (r=–0.317, p<0.001). As their positive attitude towards menopause increased, their psychological complaints decreased. As their awareness of menopause increased, their psychological complaints decreased. Conclusion: Increased awareness of menopause provided a decrease in the psychological complaints of menopause. In the study, it was seen that the attitudes of the women about menopause were an effective variable in the emergence of menopause complaints. Improving the attitudes of the women towards menopause is important in reducing menopausal symptoms

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Original Artıcles

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Results: Of the participants, 71.0% had gone through menopause, whereas 21.0% had not, and 8.0% did not know whether they had gone through menopause or not. The mean age of the women who had gone through menopause was 47.79±4.5 years. While the mean ATMS score was 43.97±10.93, 37.9% of the women had a negative attitude (40 points and below). The mean MRS somatic complaint score was 6.43±3.74, the mean psychological complaint score was 6.21±4.09, and the mean urogenital complaint score was 3.88±2.65. There was a moderately significant negative correlation between their ATMS scores and their menopause-related psychological complaints ($r=-0.317$, $p<0.001$). As their positive attitude towards menopause increased, their psychological complaints decreased. As their awareness of menopause increased, their psychological complaints decreased.

Conclusion: Increased awareness of menopause provided a decrease in the psychological complaints of menopause. In the study, it was seen that the attitudes of the women about menopause were an effective variable in the emergence of menopause complaints. Improving the attitudes of the women towards menopause is important in reducing menopausal symptoms.

Keywords: Menopause, Climacteric period, Knowledge, Attitude

What's already known about this topic?

***** Menopause is an important milestone that shows the end of the reproductive cycle in women.

* Symptoms that occur in menopause cover as a whole the physical changes, cultural influences, and individual perceptions.

* The menopausal period is an important period that brings many physical and psychological changes, and significantly affects the family and society.

What does this article add?

* It is possible to reduce the frequency and severity of menopause symptoms with studies aimed at improving the menopause attitude of women.

* An increase in awareness concerning menopause leads to a decrease in menopausal psychological complaints.

* The positive development of the attitudes of the women about menopause was important in reducing their menopausal symptoms.

*Maintaining quality of life in menopause is an important goal, and it is one of the responsibilities of health professionals to eliminate the complaints of women in this period, and determine quality of life and the situations associated with it.

INTRODUCTION

The life of a female consists of five periods, comprising childhood, adolescence, sexual maturity, menopause, and old age. Each of these periods has its own physical, psychological, and hormonal differences.[1] The

climacteric period covers the perimenopausal, menopausal, and postmenopausal periods, and is a period of life in which the woman transitions from reproductive age to the age in which the reproductive cycle ends. Menopause is an important milestone that shows the end of the reproductive cycle in women. The average age for natural menopause is about 51 and varies in different populations.[2] According to the Definition of the World Health Organization, menopause is a condition of the "permanent end of menstruation as a result of the loss of ovarian activity".[3] Accurate definitions for menopause and associated concepts have been provided by the Stages of Reproductive Aging Workshop. After the final menstrual cycle, menopause is characterized as 12 months of amenorrhea, representing an almost complete but normal decrease in ovarian hormone secretion.[4] On average, one-third of a women's life passes in menopause. The menopausal period is an important period that brings many physical and psychological changes, and significantly affects the family and society.[5] In order to have a healthy and happy period that cannot be underestimated for human life, women need to know how to deal with the problems of the menopausal period. Night sweats, hot flashes, and sleep problems, psychological problems (anxiety, depression, discomfort, sexual abstinence, etc.) and atrophic changes (vaginal atrophy, stress incontinence, and dyspareunia, etc.) are the most common problems during this period. Osteoporosis and cardiovascular diseases occur, as well. Although the exact causes of the complaints observed during menopause are not known, they are generally thought to be caused by the lack of estrogen.[6] The most common symptoms reported by women in the menopausal period are hot flashes and night sweats, which are observed in the transition to menopause. Although it affects about 70% of women in Northern Europe and America, the prevalence of vasomotor symptoms and the experience of menopause vary significantly between cultures.[7]Moreover, eating habits, and cultural and ethnic differences are among the factors considered to be effective in the emergence of menopausal complaints.[8] Symptoms that occur in menopause cover as a whole the physical changes, cultural influences, and individual perceptions. To understand menopause well, it is necessary to take into account biological factors, as well as psychological, social, and cultural ones.

The consideration of menopause as a natural process of life or disease by women and the developments in their lives that occur with middle age affect their attitudes about menopause. In the literature, it was found that the personality characteristics of individuals can be an important factor in the formation of menopause-related attitudes, as can be the stereotypes, perspective of life, marital relationship, optimistic attitude, and menopausal life. In the studies on menopausal complaints, it was reported that the attitudes of women concerning menopause were an effective variable in the occurrence and severity of menopause complaints. It is possible to reduce the frequency and severity of menopausal symptoms through studies aimed at improving menopause knowledge level and menopause attitude.[9] Sexual problems have an important place during menopause. Studies have reported a decrease in the sexual interest and frequency of sexual intercourse, 47%–85% loss of sexual desire, 20% decrease in the frequency of orgasms, 20%–70% decrease in the frequency of sexual intercourse, and 40% increase in dyspareunia in the first couple of years of menopause. These results are thought to be the result of estrogen deficiency, as well as androgen deficiency.[10,11] Maintaining quality of life in menopause is an important goal, and it is one of the responsibilities of health professionals to eliminate the complaints of women in this period, and determine quality of life and the situations associated with it. Patient education during menopause and knowing the symptoms experienced or likely to be experienced during menopause will make it easier for the woman to deal with these problems. In this context, this study aimed to determine the menopause knowledge levels and awareness of women in the climacteric period, to determine the symptoms of menopause and their attitudes towards menopause, and compare them with their level of knowledge.

MATERIAL- METHODS

Type, place, and population of the research Women between the ages of 40 and 65, who consulted the Obstetrics and Family Medicine outpatient clinics, between October and November 2020, were included in this study, which was planned as descriptive and cross-sectional research. The participants were given preliminary information about the study and their verbal consents were taken.

The ethical permission of the study

Ethical permission for the study was granted before the study began from the Ethics Committee (Number:2020/2941). The participants were informed about the study, and their written and verbal consents were obtained according to the ethical principles of the Helsinki Declaration.

Data collection tools

A four-section questionnaire was filled out using the face-to-face interview method, which was applied to volunteer participants who agreed to participate in the study. Patients receiving hormone replacement therapy, Spironolactone, selective serotonin reuptake inhibitor, or antidepressant therapy were not included in the study.

Sociodemographic Information Form: The questionnaire, which contains the introductory information about the person, consists of 8 questions about their age, marital status, income level, level of education, and menopausal status.

Menopause Knowledge and Awareness Form : The literature on the subject was scanned and prepared by the researchers. In this form, which consists of 10 questions about knowledge and awareness concerning menopause, the total menopause knowledge and awareness score was calculated by giving 1 point for correct answers, and 0 points for false answers and those answered: "I don't know". The first 5 questions in the form measure general information about menopause and the last 5 questions measure the awareness that the woman has of her own menopause period.

Menopause Attitude Assessment Scale: The Menopause Attitude Assessment Scale (ATMS) was developed by Uçanok (1994) to measure the attitudes of women of different age groups towards menopausal life and its aftermath.[12] There are 2 positive and 18 negative expressions on the scale. For positive statements, 0 points are given to the "I strongly disagree" response, 1 point to the "I disagree" response, 2 points to the "neutral" response, 3 points to the "I agree" response, and 4 points to the "I strongly agree" response. In negative statements, this scoring is implemented in the opposite direction. The lowest score on the scale is zero, and the highest score is 80. A high score obtained from the scale shows a positive attitude towards menopause, while a low score shows a negative attitude. It is accepted that the attitude is more positive as the scores increase above the average score 40. The Cronbach Alpha coefficient of the scale is 0.86.

Menopause Rating Scale: The Menopause Rating Scale (MRS) was developed by Schneider et al. to measure the severity of menopausal symptoms and was adapted to Turkish by Gürkan (2005) in Turkey.[9] In the Likert-type scale, which consists of a total of 11 items containing menopausal complaints, there are "0 = None", "1 = Light", "2 = Medium", "3 = Severe" and "4 = Very severe" options for each item. The total score of the scale is calculated based on the scores given for each item. The lowest score that can be obtained is 0 and the highest score is 44. The increase in the total score taken from the scale shows an increase in the severity of the complaints experienced.

Statistical analysis

In the study, while evaluating all of the data obtained through surveys that were filled out using the face-to-face interview method, the mean and standard deviation values of the numerical data were calculated. Normal distribution conformity was evaluated using the Kolmogorov-Smirnov test; categorical and numeric data were compared using statistical analyses, such as the chi square test, student t-test, and one-way ANOVA. $p<0.05$ was considered statistically significant. The reliability scores of each scale were calculated via the Cronbach alpha; correlation analysis was used to determine the relationship between the level of knowledge, and attitudes and symptoms.

RESULTS

The study included 224 women with a mean age of 53.0±6.1 (42–65) years. Among the participants, 75.9% (n=170) were married, whereas 7.6% (n=17) were single, and 16.5% (n=37) were divorced. (n=74). Of the women, 33.0% were primary school graduates, 63.8% (n=143) had a balance of income and expenses, and 58.0% had no chronic diseases. Moreover, 71.0% of the respondents had gone through menopause, whereas

21.0% had not; and 8.0% did not know if they had gone through menopause or not. The mean age of the first menstrual period of the women was 13.02±1.31 (10–16) years, the median number of births was 2 (0–9), the mean menopausal age of women who had gone through menopause was 47.79 ± 4.5 (38–58) years (Table 1).

Nearly half (56.7%) of the respondents said that they had previously received information about menopause. Among these women, 59.4% had received the information from doctors, whereas 18.8% received it from midwives, 12.1% received it from social media, 18.3% received it from acquaintances, and 8% received it from radio-TV. Of the participants, 82.6% thought that women who had gone through menopause or doubted so should consult a doctor. The mean menopause knowledge score of the women was 4.90±2.63 (1–10), and the average awareness score was 4.08±1.40 (1–6) (Table 6). Those with higher levels of education had higher awareness scores, and those with lower income levels had lower awareness.

While the mean ATMS score of the women was 43.97±10.93 (11–70), 37.9% had a negative attitude (40 points and below) and 62.1% had a positive attitude (above 40 points). A statistically significant relationship was found between the marital and educational status of the participants and the ATM score (p=0.008). The ATMS score of those who were married (44.95±11.35) was higher than that of the single women (40.89 ± 8.91).

On the MRS scale, the mean somatic complaint score was found to be 6.43±3.74, whereas the psychological complaint score was 6.21±4.09, urogenital complaint score was 3.88±2.65, and the total mean MRS score was 16.53 ± 8.92. A statistically significant relationship was found between the marital status, educational status, presence of chronic disease, and menopause status of the participants, and the MRS score (p<0.001). The menopause-related complaints of the women are shown in Figure 1.

Psychological complaints (7.46±4.68), urogenital complaints (4.31±2.98), and MRS total scores (18.02±10.14) of the women with negative attitudes about menopause were found to be statistically significantly higher than those of the women with positive attitudes (p=0.001, p=0.038, and p=0.049, respectively) (Table 2). Somatic (7.64±3.71), psychological (8.21±4.28), and urogenital (5.90±2.78) complaints of the women who indicated that they performed no physical activity in daily life and lived a sedentary life were found to be higher than those who performed mild to moderate physical activity (p=0.045, p=0.002, p=0.002, and p<0.001) (Table 3).

Among the women, 31.7% (n=71) were in the perimenopausal period, 28.1% (n=63) were in the menopausal period, and 40.2% (n=90) were in the postmenopausal period. Somatic (8.05±3.34), psychological (7.43±3.89), and urogenital (3.79±2.94) complaints of the women in the menopausal period were higher than those of the women in the perimenopausal and postmenopausal periods (p<0.001). While the attitudes of the women about menopause did not change in any of the 3 stages of the climacteric period, the level of knowledge about menopause was higher in menopausal women than in women in the perimenopausal and postmenopausal periods (p<0.001) (Table 4).

There was a moderately significant negative relationship between the ATMS scores of the women participating in the study and their psychological complaints due to menopause (r=0.317, p=0.001). As their positive attitude towards menopause increased, their psychological complaints decreased. However, there was a moderately significant negative relationship between the menopause awareness status and psychological complaints of the women (r=–0.288, p=0.001). As their menopause awareness increased, their psychological complaints decreased (Table 5).

DISCUSSION

Menopause and its complications can impair the feeling of well-being and health, and affect quality of life. Although the menopausal age is the same as in past years, women have started to spend about one-third of their lives in menopause due to the increase in the average life expectancy.[13] The intensity and effect of menopausal symptoms differ among people and societies. Some women may experience more severe symptoms that can have a profound impact on their personal and social performance, and quality of life, and cause them to encounter numerous serious problems in their lives. Therefore, the severity of menopause symptoms

can affect their quality of life, both physiologically and psychologically.[14]

The age of menopause differs from society to society. The menopausal age in Turkey varies between 48–51 years.[15] In the study presented herein, the average age of going through natural menopause in the women was calculated as 47.79 ± 4.5 (38–58) years. In the current study, 37.9% of the participants were found to have a negative attitude regarding menopause, whereas 62.1% had a positive attitude. When research examining the attitudes of women regarding menopause in the literature were evaluated, reports of both positive and negative attitudes were found. An Iranian study found that 6.3% of women had a negative attitude towards menopause, whereas 71% had a neutral attitude, and 22.8% had a positive attitude.[16] In a study regarding self-awareness during menopause in Austria, Bloch (2002) found that 35.3% of women in the climacteric period had negative feelings regarding menopause, whereas 33.3% had positive emotions, 27.5% were neutral, and 3.9% had indifferent emotions.[17] One study found that women with a negative attitude towards menopause reported more frequent complaints when compared to women with a positive attitude.[18] In the study presented herein, the psychological and genitourinary complaint scores of the women who had negative attitudes about menopause were found to be higher than those of women who had positive attitudes. Women with a positive attitude reported significantly fewer symptoms of menopause.

In general, a higher level of education has been associated with better health, income, and more opportunities in the social and working lives of women. The reason why women during menopause with high levels of education had a higher physical quality of life scores may have been due to the fact that they were more advantageous in regular access to health care, they were informed, and they consulted physicians. According to the research, a negative relationship was found between the level of knowledge and the severity of menopause symptoms.[19]That is to say, less educated women experience more severe symptoms, and highly-educated women are more aware of the menopause symptoms, the strategies to deal with them, and are more likely to look for treatment for their symptoms. A study conducted in Taiwan reported increasing menopausal complaints due to an increased level of education.[20] In the study presented herein, the results showed that women with a higher level of education women had a positive attitude about menopause and healthy living.

This study has found a relationship between the marital status, educational status, presence of chronic diseases and menopausal status of the women, and the severity of their menopause symptoms. Symptom severity was found to be lower in the married women. However, symptom severity was found to be lower as the education level increased. With a clear statement, menopausal symptoms were felt less in participants who were married or had a high level of education. The menopausal period is also a process in which a large number of chronic diseases appear. Sometimes it can be quite difficult to distinguish between symptoms caused by chronic diseases and those caused by estrogen deficiency. Numerous studies have reported that more symptoms of menopause were observed among women with chronic diseases.[21]

In reducing the psychological and vasomotor symptoms, exercise is recommended during the menopausal and perimenopausal periods. Doing exercise generally has positive effects on the mood and sleep disorders in women. Vasomotor symptoms, such as hot flashes and night sweats, are improved with weight loss involving physical activity in obese women who have a higher body mass index.[22] It also has a positive relationship with lowering cholesterol, triglycerides, apolipoprotein, and glucose levels[23], and accordingly, is associated with reducing the symptoms of hot flashes.[24] On the contrary, a controlled 6-month study showed no relationship between weight change, and mental and physical quality of life.[25] Poppel et al. showed that physical activity did not reduce vasomotor and mental symptoms during menopause.[26] A study involving Australian middle-aged women stated that exercise was beneficial for somatic and psychological symptoms, such as depression and anxiety, but not for vasomotor symptoms or sexual function.[27] As a result of estrogen deprivation during the menopause transition, the sex drive of women decreases, and vaginal dryness, signs of thinning of the wall of the womb and sexual dysfunction commonly occur. A study of 42 women in the postmenopausal period, who were divided into 2 groups of aerobic or resistance exercise programs, 3 days a week for 8 weeks, did not report any effects on genitourinary complaints or sexual symptoms.[26] However, in a cross-sectional study of 151 women who practiced physical activity, improvement in sexual symptoms was reported.[28] In the study presented herein, the somatic, psychological, and genitourinary complaints of the women who stated

that they pursued a sedentary life were found to be higher than those whose physical activity was at mild to moderate levels.

It is known that the level of estrogen in the blood is lower in women who smoke when compared to non-smokers. It can be thought that lower estrogen levels may cause more severe menopausal symptoms.[29] The presented study also found a significant relationship between smoking and menopausal symptoms. In several studies, the source of information about menopause has been reported as the Internet and friends.[30,31] Asian women did not report the need for information because they perceived menopause as a natural transition period.[32] In the presented study, approximately half of the participants stated that they had knowledge of menopause symptoms in advance, whereas 59.4% stated that they had discussed menopause symptoms with other individuals.

Conclusion

It is possible to reduce the frequency and severity of menopause symptoms with studies aimed at improving the menopause attitude of women. An increase in awareness concerning menopause leads to a decrease in menopausal psychological complaints. As in studies on menopausal complaints, it was seen in this study that the attitudes that women have about menopause were an effective variable in the emergence of menopausal complaints. The positive development of the attitudes of the women about menopause was important in reducing their menopausal symptoms. It was concluded that the health and lifestyle behaviors of women, as well as an evaluation of potential tools or programs to combat menopausal symptoms and improvement in overall quality of life during the menopause transition, are important, especially in groups of patients with low levels of education and income. In this study, it was found that there was a significant relationship between the menopausal complaints of the women and their attitude towards menopause, and that having a positive attitude towards menopause caused fewer menopausal complaints. According to this result, it can be said that the symptoms of menopause decrease as the positive attitude towards menopause increases.

Taking into account the views of women in menopause, a lifestyle modification program aimed at losing weight or maintaining weight allows for alleviating metabolic disorders and reducing symptoms during the menopause transition. It is important to improve the overall quality of life for metabolic changes during the menopausal period.

Lifestyle changes and training to be applied for menopause should be evaluated according to the realities of the country.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

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Referances

1. Yurdakul M, Eker A, Kaya D. Evaluating the Life Quality of the Women in the Menopausal Period. F.U. Sağ. Bil. Derg. 2007;21(2);187-193(in Turkish).

2. Gold EB, Bromberger J, Crawford S, Samuels S, Greendale GA, Harlow SD, Skurnick J. Factors associated with age at natural menopause in a multiethnic sample of midlife women. Am J Epidemiol. 2001;153(9):865-74. doi: 10.1093/aje/153.9.865.
3. World Health Organization. Research on the menopause in the 1990s. Report of a WHO scientific group. World Health Organ Tech Rep Ser. 1996;866:1–107.
4. Soules MR, Sherman S, Parrott E, Rebar R, Santoro N, Utian W, Woods N. Executive summary: Stages of Reproductive Aging Workshop (STRAW). Fertil Steril. 2001;76(5):874-8. doi: 10.1016/s0015-0282(01)02909-0.
5. Sis Çelik A, Pasinlioğlu T. Symptoms Experienced In Clımacterıc Perıod And The Role Of Nurse. ERÜ Sağ. Bil. Derg. 2013;1(1):50-56. (in Turkish).
6. Ayers B, Forshaw M, Hunter MS. The impact of attitudes towards the menopause on women's symptom experience: A systematic review. Maturitas. 2010;65(1):28 - 36. https://doi.org/10.1016/j.maturitas.2009.10.016
7. Freeman EW, Sherif K. Prevalence of hot flushes and night sweats around the world: a systematic review. Climacteric 2007;10(3):197-214.
8. Towey M, Bundy C, Cordingley L. Psychological and social interventions in the menopause. *Cur Op Obst and Gyn 2006;18:* 413-417.
9. Erbaş N, Demirel G. Evaluation of the Effect of Menopausal Complaints and Menopausal Attitudes of Climacteric Women on the Quality of Sex Life. *ACU Sağlık Bil Derg 2017;* 4:220-5. (in Turkish).
10. Dennerstein L, Lehert P, Burger H. The relative effects of hormones and relationship factors on sexual function of women through the natural menopausal transition. Fertil Steril. 2005;84(1):174–180. doi: 10.1016/j.fertnstert.2005.01.119.
11. Aslan E, Pocan AG, Dolapcıoglu K, Savas N, Bagıs T. The influence of hormonal status and socio-cultural determinants on postmenopausal sexual dysfunction. J of Turk Gyn and Obst Ass 2008;5(4):263-268. (in Turkish).
12. Uçanok Z, Bayraktar R. Examination of menopausal symptoms, attitudes and life perspectives in women of different age groups. journal of 3P 1996;4:11-20. (in Turkish).
13. Abedzadeh Kalarhoudi M, Taebi M, Sadat Z, Saberi F. Assessment of quality of life in menopausal periods: a population study in kashan, iran. Iran Red Crescent Med J. 2011;13(11):811-817.
14. Asgari P, Mahmoudi M. The effect of Glycyrriza glabra on quality of life in postmenopausal women. Complementary Medicine Journal 2021; 6(19):1480-1489
15. Pınar SE, Yıldırım G, Duran O, Cesur B. A problem peculiar to women: Mental health in menopause. Journal of Human Sciences 2015; 12(2): 787-98.
16. Ghorbani R, Nassaji M, Shahbazi A, Tabar SB, Rahaei F. Attitudes toward menopause among middle-aged women in Semnan, Iran. The Journal Of The Egyptian Public Health Association 2014; 89:42-45.
17. Bloch A. Self-awareness during the menopause..*Maturitas 2002;*41: 61-68.
18. Yanikkerem E, Koltan SO, Tamay AG, Dikayak S. Relationship between women's attitude towards menopause and quality of life.*Climacteric 2012;* 15: 552-562.
19. Lee MS, Kim JH, Park MS, et al. Factors influencing the severity of menopause symptoms in Korean post-menopausal women. J Korean Med Sci. 2010;25(5):758-765. doi:10.3346/jkms.2010.25.5.758
20. Cheng MH, Wang SJ, Wang PH, Fuh JL. Attitudes toward menopause among middle-aged women: a community survey in an island of Taiwan. Maturitas. 2005;52(3-4):348-55. doi: 10.1016/j.maturitas.2005.06.001.
21. Schwarz S, Völzke H, Alte D, et al. Menopause and determinants of quality of life in women at midlife and beyond: the study of health in pomerania (SHIP). Menopause (New York, N.Y.). 2007;14(1):123-134. DOI: 10.1097/01.gme.0000227860.58097.e9.
22. Huang AJ, Subak LL, Wing R, et al. An intensive behavioral weight loss intervention and hot flushes in women [published correction appears in Arch Intern Med. 2010;170(13):1161-1167. doi:10.1001/archinternmed.2010.162
23. Agıl A, Abıke F, Daskapan A, Alaca R, Tuzun H. Short-term exercise approaches on menopausal symptoms, psychological health, and quality of life in postmenopausal women. Obstetrics and gynecology

international. 2010 doi:10.1155/2010/274261
24. Elavsky S, Molenaar PC, Gold CH, Williams NI, Aronson KR. Daily physical activity and menopausal hot flashes: applying a novel within-person approach to demonstrate individual differences. Maturitas 2012; 71: 287-293.
25. Martin CK, Church TS, Thompson AM, Earnest CP, Blair SN. Exercise dose and quality of life: a randomized controlled trial. *Archives of internal medicine 2009;* 16(9):269-278.
26. van Poppel MN, Brown WJ. It's my hormones, doctor"-does physical activity help with menopausal symptoms? *Menopause 2008;* 15:78-85.
27. Mirzaiinjmabadi K, Anderson D, Barnes M. The relationship between exercise, body mass index and menopausal symptoms in midlife Australian women. International journal of nursing practice 2006;12:28-34.
28. Haimov-Kochman R, Constantini N, Brzezinski A,Hochner-Celnikier D. Regular exercise is the most significant lifestyle parameter associated with the severity of climacteric symptoms: a cross sectional study. European Journal of Obstetrics & Gynecology and Reproductive Biology 2013;170:229-234.
29. Gallicchio L, Miller SR, Visvanathan K, et al. Cigarette smoking, estrogen levels, and hot flashes in midlife women. Maturitas 2006; 53:133-143.
30. Trudeau KJ, Ainscough JL, Trant M, Starker J, Cousineau TM. Identifying the educational needs of menopausal women: a feasibility study. Women's Health Issues 2011; 21:145-152.
31. Chae HD, Choi SY, Cho EJ, et al. Awareness and experience of menopausal symptom and hormone therapy in korean postmenopausal women. Journal of menopausal medicine 2014; 20:7-12.
32. Im EO, Ko Y, Hwang H, Chee W. Symptom-Specific or Holistic: Menopausal Symptom Management.. *Health care for women international 2012;* 33:575-592.

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