

Complementary and alternative treatment methods for menopausal hot flashes used in Turkey

Handan Ozcan¹, Pinar Çolak¹, Berna Oturgan², Esra Gülsever²

1. University of Health Sciences, Faculty of Health Sciences, Department of Midwifery. Mekteb-i Tıbbiye-i Şahane, Selimiye mah. Tıbbiye Cad. No: 38, 34668 Üsküdar/ İstanbul, Turkey. ORCID ID: 0000-0002-7131-1856
2. Gumushane University, Department of Nurse.

Emails: Handan Ozcan: hndnozc@hotmai.com; Pinar Çolak: colakp96@gmail.com; Berna Oturgan: bernaotur38@gmail.com; Esra Gülsever: esragulsever21@gmail.com

Abstract

Objective: Study was planned to determine complementary and alternative treatment methods for menopausal hot flashes.

Methods: Women who reported their discomfort of hot flashes as a degree of discomfort of 4 or more according to the Visual Analogue Scale (VAS) were included in the study (n:356). In data collection, Questionnaire Form and Complementary and Alternative Medicine Approaches Scale were used.

Results: The average age of the women was 56.65 ± 6.05 and the average age of menopause was 46.39 ± 5.25 . According to VAS, the average severity of hot flashes was 7.85 ± 1.83 .

Women with obesity and any chronic disease were more likely to have hot flashes. It was determined that 73.6% of women in the menopausal period were using Complementary and Alternative Medicine (CAM). It was determined that women were using herbal supplements, dietary supplements, mind-body practices and religious practices against the discomfort of hot flashes. 72% of women using CAM stated that the method used was effective.

Conclusion: Women who use CAM usually use it with information that is out of the knowledge of health profession and lack of information. It is recommended to carry out extensive studies for CAM methods and the mechanisms of action that women use.

Keywords: Menopause, hot flashes, complementary and alternative medicine.

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Introduction

Menopause is the longest life stage, in which psychological and social changes, as well as physical changes, are experienced in a woman's lifespan. In this stage of life, some health problems may arise, too.¹

Although menopause starts in women at a mean age of 51 years, the onset of symptoms occurs usually 10 years earlier (perimenopausal symptoms). The distinguishing

symptoms of menopause include vasomotor symptoms; especially hot flashes and night sweating. Hot flashes are characterized by a feeling of a sudden and intense sense of heat starting in the chest and extending over the entire chest and neck;² and they are reported as the most common and troublesome experiences. The hormonal changes in menopause include a sharp rise in the circulating luteinizing hormone levels and in the levels of epinephrine (a potent stimulator of heart, which increases the heart rate, systolic blood pressure, and cardiac output); and a simultaneous decline in the levels of hormone norepinephrine (which increases blood pressure significantly).³ There has been little examination of the parasympathetic branch in hot flashes. Although the increased heart rate previously observed to accompany hot flashes has often been assumed to be sympathetically mediated, manifest changes in heart rate may be the result of decreased parasympathetic influences (delivered to the heart via the vagus nerve), increased sympathetic cardiac control, or both.⁴

Corresponding author:

Handan Ozcan,
University of Health Sciences, Faculty of Health Sciences, Department of Midwifery.
Mekteb-i Tıbbiye-i Şahane,
Selimiye mah. Tıbbiye Cad. No: 38, 34668
Üsküdar/ İstanbul, Turkey.
ORCID ID: 0000-0002-7131-1856
Email: ndnozc@hotmai.com

Hot flashes are the most common symptoms during the climacterium and occur in about 75% of postmenopausal and perimenopausal women in Western societies.⁵ However, the prevalence varies by country; being 75% in the United States,⁶ 10% in Hong-Kong,⁷ 62% in Australia,⁸ 68% in Canada,⁹ and almost 83% in Great Britain.¹⁰ The prevalence of hot flashes varies by the ethnic origin in the USA, being most common in African American women (45.6%), followed by women with Spanish (35.4%), Caucasus (31.2%), Chinese (20.5%), and Japanese (17.6%) origins, respectively.¹¹ Studies in Turkey report the rates of hot flashes as 72.7-80.4% and the night sweats as 70.1-78.2%.^{12,13}

Complaints of hot flashes also vary according to the cultural and ethnic structure. Cultural attitudes are influenced by family relations and social affiliations, as well as by the general condition of well-being and social status.¹⁴ Moreover, the intensity, frequency, severity and the duration of hot flashes vary from person to person. The SWAN study (Study of Women's Health Across the Nation), including 16,000 women, reported that hot flashes were seen in some women on a monthly or weekly basis, while they occurred more frequently in a daily or hourly routine in others. The majority of women reported that they had experienced hot flashes most frequently during a period of 6 months to 2 years after menopause. These symptoms lead to feelings of embarrassment, discomfort, and uneasiness and cause some problems like loss of sleep.¹⁵

The long-lasting discussions on the benefits and risks of hormone replacement therapy (HRT) over the last 15 years created some confusion among women.¹⁶ Menopausal women and many practitioners particularly consider HRT as an undesired intervention due to the concerns associated with the risk of developing breast cancer and vascular problems.¹⁷ A variety of treatment modalities are used for the treatment of hot flashes. Studies have reported a range of Complementary and Alternative Medicine (CAM) therapies in menopausal women with primarily minerals and vitamins (such as vitamin E, vitamin C, multivitamins, and calcium),¹⁸⁻²¹ followed by herbal medicines,^{18,19,22} relaxation techniques/yoga,^{21,23} and dietary changes.^{18,23}

CAM practices in symptom management include biologically-based methods, body-based therapies, mind-body medicine, energy therapies, and traditional methods.²⁴

Because of the observed efficacy of various herbal remedies on vasomotor and psychosomatic symptoms of menopause in different studies, there is a growing body of research reporting that especially the plants containing phytoestrogens are effective in the alleviation of the symptoms.²⁵

This study was planned to identify the complementary and alternative treatment methods used for the alleviation of hot flashes by menopausal women.

Methods

Sampling technique and inclusion criteria

The study population consisted of a total of 4721 women, who were in the age range from 40 to 65 years of age according to 2017 TSI (Turkish Statistical Institute) data, and who lived in the center of Gümüşhane province.²⁶ The study sample was composed of women who were in menopause and who have not had menstrual bleeding in the last year, based on their self-reports. In the determined study universe and within a 95% confidence interval, the number of women to be included in the study was calculated to be 356 according to the sampling formula and this figure was taken as the minimum sample volume. According to the determined sample volume, women were stratified into 5-year age ranges (40-44 years=91 women, 45-49 years =75 women, 50-54 years =84 women, 55-59 years =54 women, 60-64 years =50 women).

Data collection

This cross-sectional study was conducted between January 2018 to May 2018 in a state hospital in Turkey, including women in the age range from 40 to 65, who applied to the outpatient clinic. As the hospital was the only public hospital in the city center, providing healthcare services covering the society almost completely, the study sample included eligible women who applied to the outpatient clinics of the hospital. The inclusion criteria were being in menopause, having hot flashes, and having a discomfort level of 4 or more scored on the Visual Analogue Scale (VAS) (a 10-point scale). The patients were excluded if they had any auditory or mental disabilities.

The study data were collected using a questionnaire comprising items investigating the socio-demographic characteristics and features of menopause. To identify the complementary and alternative methods used for hot flashes, "Complementary and Alternative Medicine Scale (CAMS)", developed by Can G et al.²⁷, was used. The scale consists of five subgroups of 55 CAM inter-

ventions frequently used. The five subgroups comprise the following; including the herbal supplement subgroup (29 items), biological practices subgroup (3 items), dietary supplement subgroup (14 items), religious practices subgroup (5 items), and mind-body practices subgroup (5 items). CAMS assesses the use of individual CAM methods by dichotomous responses, where 0 means “no” and 1 means “yes”. Sub-dimension scores were calculated summing up the scores of individual items and the total score of the scale is the sum of individual sub-dimension scores. The Kuder-Richardson 20 (KR20) coefficient for the scale was 0.84.²⁷

Data analysis

Descriptive statistics, median, mean, frequency, and percentages were used for summarizing the distribution of patient characteristics and features of menopause. The Mann-Whitney U and Kruskal Wallis tests were used in the assessment of factors affecting CAM use. All statisti-

cal tests were two-sided and the significance level was set at 0.05.

Ethical considerations

The required permission to conduct the study was obtained from the administration unit of the Health Directorate and from the Scientific Research and Publication Board of Gümüşhane University (Number: 95674917-604.01.02-E.6100). Eligible women were informed about the study. Verbal consent was obtained from women, who accepted to participate in the study. Each woman was interviewed for 20 minutes to fill in the data collection questionnaire.

Results

The average age of the women was 56.65 ± 6.05 years and the average age of menopause onset was 46.39 ± 5.25 years. Socio-demographic characteristics of the participants are presented in Table 1. The majority of women were married housewives who graduated from primary school.

Table 1. Socio-demographic characteristics of the participants (n:356)

Employment Status	n	%	Marital Status	n	%
Housewife	329	92.4	Married	304	82.3
Retired/Employed	27	7.6	Single	52	17.7
Total	356	100.0	Total	356	100.0
Educational Status	n	%	Income Status	n	%
Literate	148	42.4	Less income than expense	80	22.5
Primary School	148	42.4	Equal income to expense	232	65.1
High School and above	53	15.2	More income than expense	44	12.4
Total	349	100.0	Total	356	100.0

The mean severity of hot flashes was scored as 7.85 ± 1.83 on VAS. The Body Mass Index (BMI) was over the normal weight in 86.8% of the participating women and 46.8% of them were classified as obese. Of the participants, 24.2% had undergone a gynecological surgery including hysterectomy or myomectomy. There were no significant differences between the presence of hot flashes, any gynecological diseases and a history of gynecological surgery ($p > 0.05$). It was determined that there were no significant differences between BMI and the presence of hot flashes, but the complaints were more severe in the obese group (VAS scores in the ideal weight group = 7.45 ± 1.84 ; overweight group = 7.78 ± 1.87 ; and obese group = 8.00 ± 1.78).

The medical histories of the participating women informed that 86.3% of them had a vaginal delivery, 31.8% of them gave birth at home, 56.4% suffered from a chronic disease (hypertension, diabetes, cholesterol, asthma,

etc.), and 58.7% were on regular treatment with medications. It was determined that 56.5% of the participants did not receive any information about the menopause period and 57.7% of the informed women received information from a health professional. Of the menopausal women, 71.6% of women did not receive any medical support. In order to cope with hot flashes, 93% of the women practiced the following respectively, including deep breathing exercises (68%), physical exercise (14%), moving to a cooler environment (68.3%), wearing thin clothes (66.4%), consuming cold drinks (20.8%), taking a luke-warm shower (23.9%), and cold application to the feet (31.5%).

In women with any chronic diseases (hypertension, diabetes, cholesterol etc.), the frequency of hot flashes was found to be significantly higher (U: 13432,500, $p: 0,025$). Characteristics of hot flashes experienced by the participants are summarized in Table 2.

Table 2. Characteristics of hot flashes of the participants (n: 356)

Start Time of the Complaints	n	%	Frequency of Hot Flashes	n	%
During the first year of menopause period	233	86.6	2-3 times a day	154	43.3
During the first five years of menopause period	28	10.4	Everyday	89	25.0
During the entire menopause period	8	3.0	2-3 times a week	64	18.0
Total	269	100.0	Once a month	49	13.7
			Total	303	100.0
Time of Complaints	n	%	Duration of Complaints	n	%
Morning	5	1.7	1-2 minutes	107	30.1
Noon	18	5.9	3-5 minutes	132	37.1
Evening	33	10.9	10-15 minutes	68	19.1
Night	73	24.1	20-30 minutes	49	13.8
Irregular	174	57.4	Total	356	100.0
Total	303	100.0			
The Impact on Daily Activities	n	%	Consulting a physician for hot flashes	n	%
Yes	182	51.1	Yes	97	27.2
No	174	48.9	No	259	72.8
Total	356	100.0	Total	356	100.0

Most of the hot flashes were experienced on the back (26.7%), followed by the head/neck (23.9%) region, and on hands/feet (18.8%). In regards to the hot flashes they experienced; 84.8% of the participating women stated

that sweating accompanied the hot flashes, 74.4% felt too uncomfortable waking up in the middle of the night, and 44.4% experienced palpitations during hot flashes. Modes of CAM used for the treatment of hot flashes by the menopausal women are presented in Table 3.

Table 3. Use of CAM Therapies^a (n:356)

Herbal supplements	n	%	Dietary supplements	n	%
Linden tea	26	7.3	Yoghurt	170	47.8
Rosehip	19	5.3	Milk and milk products	81	22.8
Daisy	18	5.1	Honey	16	4.5
Green tea	15	4.2	Carob syrup	7	2.0
Sage tea	13	3.7	Anzer/carob honey	4	1.1
Marjoram	9	2.5	Mullberry syrup	6	1.7
Stinging nettle	9	2.5	Sweet	5	1.4
Nigella sativa	6	1.7	Red meat	4	1.1
Ginger	6	1.7	Fish	3	0.8
Sweet almond	2	0.6	Chicken	3	0.8
Curcuma	1	0.3	Bread/pastry	2	0.6
Flax seed	2	0.6	Garlic	6	1.7
Vitamin	3	0.8	Carrot	5	1.4
Horsetail	1	0.3	Pomegranate	3	0.8
Grape seed	3	0.8	Grapefruit	4	1.1
Omega 3	2	0.6	Other fruits and vegetables	103	28.9
Other (mint, onionskin, melissa, fennel...)	17	4.8	Other (peach, apple, molasses...)	18	5.1
Mind-body practices	n	%	Religious practices	n	%
Exercise	35	9.8	Namaz ^b	132	37.1
Biological practices	-	-	Pray	203	57.0

^a Some patients used more than one CAM therapy so the percentages of CAM use are given according to the related item.

^bNamaz: Prayer performed by Muslims five times a day.

It was determined that 73.6% (n: 262) of the menopausal women tried CAM. Most commonly used herbal remedies for the alleviation of the hot flashes included simmered teas made of linden, rosehip, daisy, green tea and sage. Fruits and vegetables, yoghurt, milk and milk products, and honey were the most commonly used dietary supplements. The participating women also reported that they

performed mind-body exercises, ritual prayers of Islam religion, or they simply prayed. No patients performed biological practices like shark cartilage, turtle blood or rabbit blood (Table 4). Of the women trying CAM, 72% stated that the method they were using was effective. Various factors associated with the use of complementary and alternative treatments in menopause are presented in Table 4.

Table 4. Comparison of sub-dimension and total score averages of CAM scale according to characteristics of the participants

		Herbal Approaches	Biological Approaches ^a	Nutritional Approaches	Religious Approaches	Spiritual Approaches	Total
Getting Information about Menopause	Yes	2.51±3.02	-	2.39±2.35	1.74±0.59	1.00±00	4.19±4.45
	No	3.00±1.65	-	2.00±1.48	1.63±0.50	1.00±00	3.38±2.14
	U	170.000	11340.000	3631.500	3259.500	168.000	5637.500
	p	.035	1.000	.472	.315	1.000	.289
Suffering from Insomnia	Yes	2.45±2.43	-	2.15±1.85	1.68±0.52	1.00±00	3.80±3.16
	No	3.87±3.27	-	2.35±2.36	1.67±0.66	1.00±00	3.61±4.43
	U	124.000	8120.000	2196.500	1887.000	150.000	3084.000
	p	.333	1.000	.833	.660	1.00	.027
Consulting a Physician	Yes	2.41±1.73	-	2.16±1.13	1.76±0.42	1.00±00	4.00±2.11
	No	2.83±3.00	-	2.19±2.21	1.64±0.59	1.00±00	3.66±3.87
	U	260.000	9331.000	2851.500	2608.000	192.000	4093.500
	p	.937	1.000	.161	.077	1.000	.014
The Impact on Daily Activities	Yes	3.21±3.14	-	2.43±2.43	1.77±0.55	1.00±00	4.20±4.27
	No	1.95±1.35	-	1.88±1.037	1.54±0.50	1.00±00	3.18±1.73
	U	205.500	11371.000	3358.000	2724.000	198.000	5072.000
	p	.104	1.000	.134	.009	1.000	.037
Getting Medical Help	Yes	3.00±2.36	-	2.28±1.21	1.72±0.45	1.00±00	3.67±2.34
	No	2.59±2.70	-	2.15±2.17	1.67±0.57	1.00±00	3.80±3.81
	U	187.000	9523.000	2583.500	2522.500	198.000	5076.000
	p	.672	1.000	.048	.421	1.000	.951

^a There was no patient using biological practices

There was not a relationship between the CAM scale scores of the women and their employment status, educational status, income status, the history of a gynecological operation, presence of chronic diseases, being informed about the menopause period, and the frequency and duration of the complaints ($p>0.05$). Using TAT among women affected by daily activities, referring to the doctor, living insomnia is more than rates ($p<0.05$).

Discussion

The average age of onset of menopause in the world

is reported to be 51 and it ranges from 45 to 55 years. In the developing countries, the mean age of onset of menopause is younger compared to that in the developed countries. The age of onset ranges from 49.3 to 51.4 years in the developed countries and from 43.5 to 49.4 years in the developing countries. For example; it is between 50-51 years in Jordan, 47 in Turkey, and 48 in Egypt.²⁸ In this study, the average onset of menopausal age was found to be 46 in line with the previous studies.

It is reported that menopausal complaints are more common among women with obesity and any chronic diseases

(such as hypertension, diabetes, cholesterol, etc.).²⁹ In this study, complaints of hot flashes were found to be more severe in women who were in the obese group based on the BMI values. It was determined that hot flashes occurred most commonly on the back, followed by the head and neck region; and they were too disturbing to interrupt the sleep in the middle of the night, accompanied by sweating and palpitations. Studies have reported that hot flashes are typical for menopause and are accompanied by sweating. As they cause discomfort, it is recommended that they should be treated until they become tolerable.³⁰ In the study of Saccomani et al, it was reported that especially the vasomotor, urinary, and joint symptoms were related to obesity in menopausal symptoms. It was also stated that in women with higher BMI values; hot flashes, urinary urgency, and vaginal dryness occurred at a significantly higher intensity.²⁹

In this study, it was determined that a large majority of women practiced either deep breathing exercises (68%) or physical exercises in order to cope with hot flashes. A large majority of women using these methods reported that they were effective (72%). In the literature, the use of relaxation techniques is reported to be beneficial in relieving menopausal symptoms such as hot flashes since these methods help reduce sympathetic activation. Deep breathing is the simplest form of relaxation techniques. It is stated that a sufficient level of relaxation can be achieved, similar to the levels achieved with the diaphragmatic respiration techniques, reducing the frequency and severity of anxiety, depression, increased blood pressure, and hot flashes.²³

Women attempt to try several modes of CAM to achieve resolution of their acute problems and to improve their quality of life. The popularity of CAM gradually increases day by day since it is cheap and easy to access, people feel insecure about the currently available treatments, the number of chronic diseases is on the rise, and people are more willing to take control and responsibility on the treatment of their disorders.³¹ In this study, it was determined that approximately 3 out of 4 (72.6%) women in the menopause period tried CAM for the treatment of hot flashes. In some studies, CAM use rates of menopausal women were reported to be between 22-83%.^{32,33} In a literature review, it was stated that the rates of CAM use increased from 48.5% to 80%, from 2002 to 2008.³⁴ According to an analysis of 49 studies, it was reported that the CAM use rates in menopause was 70% and it

was used beyond the health professional's knowledge.³⁴ CAM is most commonly used for the treatment of most disturbing symptoms of menopause, especially for the treatment of hot flashes and insomnia.^{34,35} In this study, it was determined that more than half of the women had no information about the period of menopause, about two-thirds did not receive medical support, and the large majority of these women used CAM. These findings demonstrate that women use modes of CAM without the guidance and control of a healthcare professional.

Among women who did not receive information about menopause (from a health care provider, television or internet), herbal remedies were used more; and among those who received medical support, the use of nutritional supplements was more frequent. CAM use was more common among women who experienced disruptions in their daily life activities, who had insomnia, and who applied to a physician. Studies have indicated that women turned to CAM due to the side effects of Hormonal Replacement Therapies –HRT. Herbal medicines are widely used in Eastern Asian countries; especially in China, Korea, and Japan. However, there is not sufficient evidence on the efficacy and safety of these herbal remedies. It was stated that a mixture of Dang Gui Liu Huang Tang herbs was prescribed for the menopausal complaints including night sweats, fever, redness on the face, anxiety and feelings of discomfort, and dry mouth. It was also reported that this herbal mixture showed immunomodulatory and anti-inflammatory effects.³⁶

Women using CAM for symptom management during the menopause preferred especially herbal products (leaves, stems, seeds, fruits, flowers, and roots).³³ A study by Corzo et al. (2017) reported that E-MHK-0103, a natural alternative remedy and a nutraceutical lipoprotein extracted from *Mytilus galloprovincialis*, was found to be beneficial in relieving menopausal symptoms and could be used successfully in the clinical practice.³⁷

In this study, it was determined that nutritional and religious approaches were also preferred besides the use of herbal products. From the herbal therapies; the simmered teas of linden, rosehip, daisy, green tea, and sage were most commonly used to cope with hot flashes. From the dietary supplements; fruits and vegetables, yoghurt, milk and milk products, and honey were most commonly used. In addition, it was determined that women practiced mind-body exercises and religious practices like ritual prayers of Islam, or simply prayed.

Conclusion

Hot flashes are commonly seen complaints in menopausal women. They were observed to be most common especially in the first year of menopause, occurring irregularly and at a frequency of 2-3 times a day and interrupting the daily activities of the large majority of menopausal women. It was observed that several methods were practiced by menopausal women to alleviate the hot flashes, including taking a luke-warm shower, moving to a cooler environment, wearing thin clothes, and performing deep breathing exercises. The use of CAM was more common among women, who received no information about the menopause period, who suffered from a relatively higher number of complaints, who applied to a physician, who received medical support, and who experienced interruptions in their daily life activities. It was determined that women especially preferred to use herbal remedies, nutritional supplements, mind-body exercises, and religious approaches to cope with hot flashes. A large majority of women using CAM reported that these practices were effective in alleviating the severity of their complaints.

Menopause is a transitional period and special care should be exercised in determining the healthcare needs of menopausal women. Women who use CAM methods often use these practices beyond the information of health professionals' knowledge and without being sufficiently informed. Further extensive studies are recommended to be conducted on these CAM methods and on their mechanisms of action. Health care providers should be actively involved in implementing sustainable educational programs and in assessing the needs of women in the menopause period.

Conflict of interest

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Contributorship of authors

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; Ozcan H, Colak P, Oturgan B, Gülsever E.
- Drafting the work or revising it critically for important intellectual content; Ozcan H
- Final approval of the version to be published; Ozcan H, Colak P, Oturgan B, Gülsever E.

•Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; Ozcan H, Colak P, Oturgan B, Gülsever E.

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