BMC Women's Health

RESEARCH

Open Access

Menopausal symptoms and utilization of menopausal hormone therapy among women aged 40–60 years in Addis Ababa, Ethiopia: a cross-sectional study

Tewodros Getahun Asfaw[1*], Rahel Demissew Gebreyohannes[2] and Milcah Temesgen Tesfaye[3]

Abstract

Background The onset of menopause leads to diminished estrogen exposure, resulting in a high morbidity burden related to menopausal symptoms. Menopausal hormonal therapy is an effective therapy that offers more advantages than disadvantages for women aged less than 60 years or who have had menopause for less than 10 years.

Objective This study aimed to assess the prevalence of menopausal symptoms, identify factors associated with menopausal symptoms, and assess the use of menopausal hormone therapy among women aged 40–60 who visited the gynecological clinics of three hospitals in Addis Ababa, Ethiopia.

Methods A facility-based cross-sectional study was conducted from January 2022 to June 2022 at Gandhi Memorial Hospital, Tikur Anbessa Hospital, and Zewditu Memorial Hospital on 296 middle-aged women. Data were collected using an interviewer-administered structured questionnaire and analyzed for sociodemographic factors, utilization of menopausal hormone therapy, and prevalence of menopausal symptoms using the menopause rating scale. Data were analyzed using SPSS version 25. Bivariate and multivariate logistic regression analyses were performed to identify independent predictors of each subscale of menopausal symptoms. The strength of the association was measured using odds ratios with 95% confidence intervals, and statistical significance was set at a value of $P < 0.05$.

Result The prevalence of menopausal symptoms was 89.9%. According to the menopausal rating scale, the frequency of reported symptoms was hot flushes (54.7%), muscle and joint pain (32.1%) on the somatic subscale; physical and mental exhaustion (55.1%), irritability (48.6%) on psychological subscale; and sexual problems (41.3%), bladder problems (39.2%) on urogenital subscale. This study also showed that the age of women [aOR: 0.317, 95%CI (0.102, 0.990)], and monthly family income [aOR = 0.182, 95% CI (0.041, 0.912)] were significantly associated with somatic menopausal symptoms. There was no utilization of menopausal hormonal therapy to treat menopausal symptoms and to prevent complications.

Conclusion The prevalence of menopausal symptoms is high; however, the utilization of individualized administration of menopausal hormone therapy according to symptoms is negligible. It appears essential for these

*Correspondence:
Tewodros Getahun Asfaw
tedymen77@yahoo.com

Full list of author information is available at the end of the article

institutions to work on service availability and delivery of menopausal hormone therapy for those in need of wider benefits for their clients.

Keywords Menopause, Menopausal symptoms, Ethiopia, Gynecology, Menopausal hormonal therapy, Hot flush, Somatic symptoms, Psychological symptoms, Urogenital symptoms

Background

With a few exceptions, women have longer life expectancies than men related to female biology, such as hormonal protective factors, and fatal risk factors associated with male working conditions, lifestyle, and a higher risk of injury [1]. At the global level in 2019, approximately 9% of people were 65 years or older, with two-thirds of the world's older population now living in low-income and middle-income countries [2]. According to the 2019 Revision of World Population Prospects, Ethiopia's life expectancy 2021 is 67.07 years [2].

Menopause is a normal phase of life, similar to puberty; and should not be viewed as abnormal. For many women, it is a welcome change, with no further menses or premenstrual syndrome (PMS), and there is no need for contraception or concern for conceiving [3].

Menopause is that point in time when permanent cessation of menstruation occurs following the loss of ovarian activity. Perimenopause includes the years before the final menstrual period, during which menstrual cycles progress from a regular ovulatory and predictable pattern to irregular and increasingly anovulatory cycles, to eventual cessation of menses. This stage ends 12 months after the final menstrual cycle [4].

Menopausal symptoms are experienced by many women during menopausal transition and postmenopausal period [5–10]. Hot flashes, one of the most common symptoms, typically resolve several years later, for about 15–20% of women untreated symptoms are severe enough to interfere with quality of life [11–13].

For these women, estrogen therapy is the most effective treatment for relieving hot flashes, night sweats, vaginal dryness, and possible improvements in mood, sleep quality, and concentration. It also protects against osteoporotic fractures and prevents osteoporosis [14, 15].

These data indicate that the initiation of menopausal hormonal therapy soon after menopause in women with presumably normal arteries may not be at risk and may even derive beneficial cardiovascular effects. In contrast, initiation many years after menopause is susceptible to the proinflammatory and prothrombotic effects of estrogen among the associated atherosclerotic lesions, leading to excessive coronary risk. This timing hypothesis does not mean that recently menopausal women should be administered estrogen therapy for the primary prevention of coronary heart disease. Rather, clinicians are reassured in clinical practice of cardiac risks when considering the short-term use of menopausal hormonal therapy in women with bothersome vasomotor symptom relief [16, 17].

Concerns include increased risks of thromboembolic disease, endometrial cancer, gallbladder disease, and breast cancer as well as increased risks of dementia, cardiovascular events, stroke, and ovarian cancer [18–22].

Accordingly, most people now believe that short-term menopausal hormonal therapy using the lowest effective dose is a reasonable option for women with severe-to-moderate menopausal symptoms who are recently menopausal and have satisfactory cardiovascular health [17, 23]. Short-term therapy is no more than 4–5 years because symptoms diminish after several years, whereas the risk of breast cancer increases with a longer duration of hormone therapy [23].

As shown in a multicenter randomized trial conducted in Denmark in 2012, after 10 years of randomized treatment, women using hormone replacement therapy (HRT) early after menopause had significantly reduced risks of mortality, heart failure, and myocardial infarction without any apparent increase in cancer, venous thromboembolism, or stroke [24].

According to the governing principles of the International Menopausal Society (IMS) guideline, Menopausal hormonal therapy (MHT) is the most effective therapy for urogenital atrophy and vasomotor symptoms. It may also improve sleep disturbances, mood swings, joint and muscle pain, and sexual dysfunction including reduced libido. IMS supports initiating treatment for MHT before the age of 60 years, and its use for 5 years in healthy women is safe [25].

The World Health Organization recommends MHT as the most effective treatment for vasomotor symptoms (VMS) and genitourinary syndromes of menopause. It is also effective in the prevention of osteoporosis and is advantageous for women who have had menopause for less than 10 years or aged less than 60 years [26].

In women with no risk factors especially perimenopausal women, low-dose COCs are effective for the treatment of vasomotor symptoms, irregular uterine bleeding, and maintenance of bone mineral density. However, menopausal symptoms can worsen during the pill-free period; therefore, it should be used continuously [27, 28].

Accordingly, the Ethiopian standard treatment guidelines also recommend MHT for at least five years in healthy post-menopausal women aged < 60 years [29]. Conjugated equine Estrogen and Estradiol are available

in Ethiopia, Ethiopian Food and Drug Authority, Ethiopia [29, 30].

Menopause and its burden on women's physical and psychosocial health are among the least studied issues in Ethiopia. The use of MHT is common and standard in different parts of the world, and little is known about the use of HRT in Ethiopia. In addition, menopausal symptoms, such as vaginal health, urogenital symptoms, and vasomotor symptoms, are not usually assessed and discussed in health facilities in Ethiopia despite their high prevalence in menopausal women [5, 31–36].

Hence, we aimed to assess the prevalence of menopausal symptoms, identify factors associated with menopausal symptoms, and use of menopausal hormone therapy among women aged 40–60 years who visited the gynecological clinics of three hospitals in Addis Ababa, Ethiopia.

Methods

Study setting and design

This facility-based cross-sectional study was conducted in three large hospitals in the capital city of Ethiopia, Addis Ababa: Tikur Anbessa Specialized Hospital (TASH), Gandhi Memorial Hospital (GMH), and Zewditu Memorial Hospital (ZMH), between January 2022 and June 2022. The study included 296 patients who visited the outpatient gynecological clinics of the hospitals. The required sample size was determined using a single proportion population formula by assuming a 95% confidence interval, and 5% margin of error, and taking the second commonly reported individual symptom and variable that gives the largest sample size, which is the prevalence of difficulty falling asleep (P=49.6%) from a community-based study conducted in Gullele sub-city of Addis Ababa, Ethiopia [5]. Adjustments were made for the population (less than 10 times the estimated sample size) using a finite population correction factor.

Data collection procedures and analysis

The average age of occurrence of the first symptoms of menopause is variable in different parts of the world, with evidence showing that the majority of women suffered and started to manifest menopausal symptoms in the age group of 40–60 years [5, 37, 38]. According to Ethiopian standard treatment guidelines, hormone replacement therapy is recommended before the age of 60 years [29]. Therefore, women aged 40–60 years who attended gynecological clinics in the three selected hospitals were recruited for the study.

According to the HMIS report of TASH, ZMH, and GMH between December 2020 and May 2021, the total number of patients evaluated and treated in the gynecologic clinics was 1096, 712, and 653 respectively; of these, 43.6%, 35%, and 31.2% of them aged 40–60 years, respectively. Therefore, 931 women aged 40–60 years were served by these three hospitals during the specified period.

Pregnant or lactating women, women who were using hormonal contraceptives, women with uncontrolled medical conditions such as hypertension, hyperthyroidism, diabetes mellitus, or heart disease, women who were undergoing treatment for serious diseases such as cancer, and women who refused to participate were excluded from the study.

Women were selected as they appeared for a clinic visit for various gynecological complaints, and information was collected until the desired sample size was achieved. Information was collected by three trained interviewers (BSC nurses) through face-to-face interviews.

The data were collected using a standard interviewer-administered questionnaire. The questionnaire was first prepared in English, then back-translated to Amharic, and translated back to English to maintain consistency. The study questionnaire was adapted from the Ethiopia Demographic and Health Survey 2011 questionnaire, a previous menopausal study, and menopausal symptoms were collected from participants according to an 11-item Menopause Rating Scale (MRS). The MRS is a self-reported subjective scale that has been used in different international populations and validated in clinical and epidemiological studies on menopausal symptoms [39].

The MRS is composed of 11 items assessing menopausal symptoms and is divided into three subscales: (1) somatic: hot flushes, heart discomfort, sleeping problems, and muscle and joint problems; (2) psychological: depressive mood, irritability, anxiety, and physical and mental exhaustion; and (3) urogenital: sexual, bladder, and vaginal problems. The MRS has been translated into more than 22 languages that do not include the Amharic version. However, it was used in a study conducted in Ethiopia that used an English version. For this research, the English version of the MRS was used. The draft Amharic translation of the MRS was made by the primary investigator, reviewed, and finalized by a committee consisting of a translator, three obstetricians (experts in the field), and one MSc holder in public health [39]. The dependent variables were the MRS subscales of menopausal symptoms (somatic, psychological, and urogenital symptoms) and utilization of menopausal hormone therapy. The independent variables were socio-demographic characteristics (age, marital status, educational level, partner educational level, occupation, and monthly family income) and obstetric and gynecological characteristics (parity, age at menarche, age at first and last delivery, history of oral contraceptive use, smoking history, and history of physician visit).

Data were analyzed using SPSS version 25. Frequency distribution, percentages, mean, median, and

Table 1 Socio-demographic characteristics of study participants

Variables	Category	Frequency	Percent
Age in years	40–44	149	50.3
	45–49	81	27.4
	50–54	24	8.1
	55–60	42	14.2
Marital status	Married	211	71.3
	Single	29	9.8
	Divorced	26	8.8
	Widowed	30	10.1
Occupation	Housewife	120	40.5
	Private business owner	35	11.9
	Government employee	72	24.3
	Private employee	58	19.6
	Farmer	11	3.7
Education	No formal education	54	18.2
	Primary	81	27.4
	Secondary	92	31.1
	College and above	69	23.3
Monthly family income in Ethiopian birr	≤ 1650	8	2.7
	1651–3200	91	30.7
	3201–5250	92	31.1
	5251–7800	40	13.5
	7801–10,900	40	13.5
	> 10,900	25	8.4

cross-tabulation between the dependent and independent variables were calculated, and the basic socio-demographic characteristics of the respondents were summarized.

Variables with P value < 0.2 during the bivariate analysis, were included in the multivariate analysis to determine the effect of confounding factors. The strength of the association was measured using odds ratios with 95% confidence intervals and statistical significance was set at a value of $P < 0.05$.

Result

Socio-demographic characteristics

A total of 296 women aged between 40 and 60 years were invited for the interview, consented to participate in the study giving a response rate of 100%, and were included in this study. The mean age of study participants was 46 years (SD ± 6.1), 149/296 (50.3%) of the participants were in the age range of 40–44 years. Nearly three-fourths (211/296, 71.3%) of the participants were married, 120/296(40.5%) were housewives, and 72/296 (24.3%) were government employees. Almost one-third of the participants (92/296, 31.1%) completed secondary education. Most participants had low and middle-family incomes, according to the classification of employment income tax rates for Ethiopia. (Table 1)

Table 2 Gynecologic and obstetrics characteristics of participants

Variables	Category	Frequency	Percent
Parity	Nulliparous	94	31.8
	Primiparous	40	13.5
	Multiparous	124	41.9
	Grandmultiparous	38	12.8
Age of menarche in years	≤ 12	31	10.5
	13–14	113	38.2
	> 14	152	51.4
Age at 1st delivery* in years	< 20	59	29.2
	20–24	60	29.7
	25–29	56	27.7
	30–34	17	8.4
	35–39	8	4.0
	40–44	2	1.0
Age at last delivery* in years	< 20	8	4.0
	20–24	10	5.0
	25–29	46	22.8
	30–34	69	34.1
	35–39	53	26.2
	40–44	12	5.9
	≥ 45	4	2.0
Oral contraceptive use	Yes	131	44.3
	No	165	55.7
History of smoking	Yes	8	2.7
	No	288	97.3
Current Sexual activity	Active	230	77.7
	Inactive	66	22.3

* $n = 202$, the percentage was calculated for 202 parous women

Gynecologic and obstetrics characteristics

The mean age of menarche was 14.8 years (SD ± 1.95) and almost half (51.4%, 152/296) of the participants had their menarche above the age of 14 years. Almost two-thirds (202/296, 68.2%) of the participants were parous. Among the parous participants, almost one-third (59/202, 29.2%) of them gave their first birth before the age of 20 years, and 69/202 (34.1%) of them have had their last delivery in the age group of 30 to 34 years.

A majority (165/296, 55.7%) of the respondents never use oral contraceptives. Most of the respondents (230/296, 77.7%) were sexually active in this sample as is shown in the table below (Table 2).

Menopausal symptoms on menopausal rating scale

History of menopausal symptoms in the previous month of the study period was collected by using the Menopausal Rating Scale (MRS). The common symptom was physical and mental exhaustion which was complained of by 163/296 (55.1%) women, followed by classical menopausal symptoms - hot flushes, which was complained of by 162/296 (54.7%) women. Out of 230 sexually active women, only one-quarter (62/230, 27%) of them complained vaginal dryness during sexual intercourse.

Based on the MRS, the two most frequently reported symptoms within each of the subscales were hot flushes (54.7%), muscle and joint pain (32.1%) on somatic subscale; physical and mental exhaustion (55.1%), irritability (48.6%) on psychological subscale; and sexual problems (41.3%), bladder problems (39.2%) on urogenital subscale. As per scoring of all domains, 266 (89.9%) of study participants had one or the other symptoms in the previous month, contributing to 89.9% prevalence of menopausal symptoms. (Table 3)

Menopausal symptoms stratified by age

When stratified by age, the predominant symptoms experienced by the women varied. Hot flashes were the most reported symptoms in the age group of 40–44 and 45–49 years with (n=73/149, 49.0%) and (n=55/81, 67.9%) respectively. In the age group of 50–54 years, Physical and mental exhaustion were the predominant symptoms (n=14/24, 58.3%). Sexual problems were the symptoms reported more by women of aged category 55–60 years (n=25/32, 78.1%). (Fig. 1)

Menopausal symptoms stratified by MRS Subscale

As the scoring of all domains, 266/296(89.9%) of study subjects had at least one of the symptoms in the previous month, contributing to 89.9% prevalence of menopausal symptoms. The distribution of symptoms by the MRS subscale is shown in Fig. 2.

Menopausal hormone therapy

In this study, there was not a single woman who has ever used menopausal hormone therapy to treat menopausal symptoms or to prevent complications like osteoporosis, despite 60/269(20.3%) women having a history of seeking help from health professionals for complaints of one or more menopausal symptoms.

Determinant factors affecting MRS subscales of menopausal symptoms

After binary logistic regression, variables with $P \leq 0.2$ were further analyzed using multivariate logistic regression. Accordingly, age, income, and history of visits for menopausal symptoms were significantly associated with somatic-vegetative symptoms. The odds of having somatic menopausal symptoms in the age group of 40–44 years women is about three times less likely compared with the age group of 55–60 years **[aOR = 0.317, 95%CI (0.102, 0.990)]**, while the odds of having somatic menopausal symptoms in women with monthly family income of 3201-5250ETB and 5251-7800ETB were about 5.7 and 5.5 times less likely when compared with women with monthly family income of above 10900ETB **[aOR = 0.175, 95% CI(0.042, 0.737)] and [aOR = 0.182, 95% CI (0.041,**

Table 3 Frequency of menopausal symptoms among participants

Subscales	Category		Frequency	Percentage	The overall prevalence in each domain	
Somatic Symptoms	Hot flushes, sweating	Yes	162	54.7	Frequency	percentage
		No	134	45.3	218	73.6
	Heart Discomfort	Yes	93	31.4		
		No	203	68.6		
	Sleeping problems	Yes	80	27.0		
		No	216	73.0		
	Muscle and joint pain	Yes	95	32.1		
		No	201	67.9		
Psychological Symptoms	Depressive mood	Yes	103	34.8	222	75.0
		No	193	65.2		
	Irritability	Yes	144	48.6		
		No	152	51.4		
	Anxiety	Yes	140	47.3		
		No	156	52.7		
	Physical and mental exhaustion	Yes	163	55.1		
		No	133	44.9		
Urogenital Symptoms	Sexual problems**	Yes	95	41.3	173	58.4
		No	135	58.7		
	Bladder problems	Yes	116	39.2		
		No	180	60.8		
	Dryness of vagina**	Yes	62	27		
		No	169	73.5		
Prevalence of overall menopausal symptoms					266	89.9

** n=230, the percentage is calculated from those sexually active women (230)

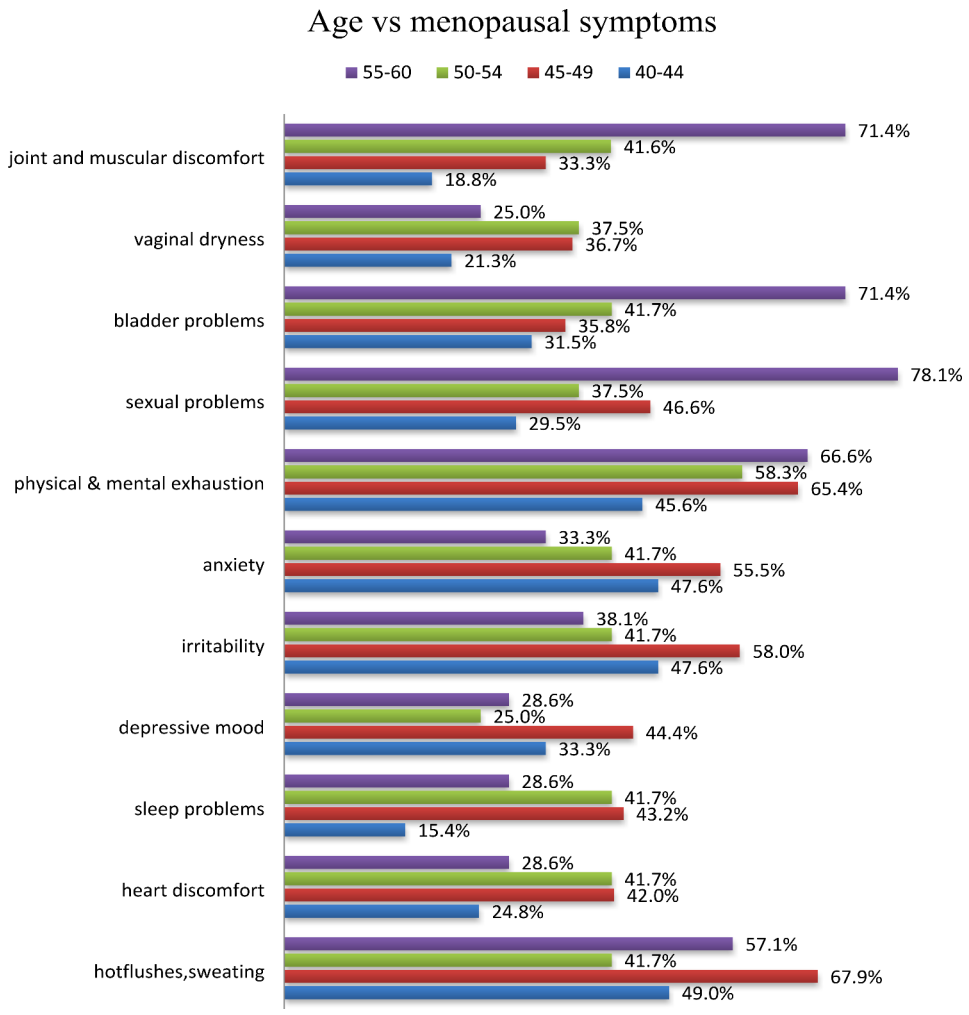

Fig. 1 Menopausal symptoms stratified by age

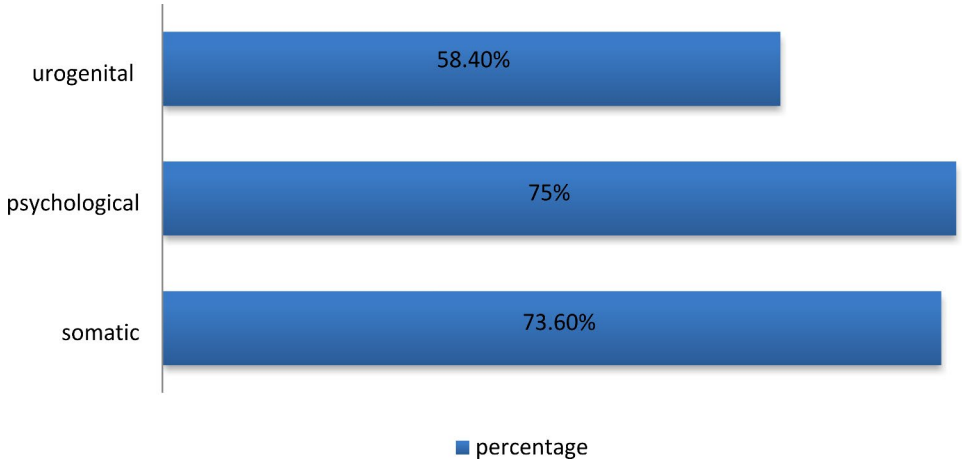

Fig. 2 Percentage of menopausal symptoms stratified by MRS subscale

0.912)] respectively. Moreover, the odds of having somatic menopausal symptoms were approximately 18 times higher in those women who had a history of seeking help from health professionals for complaints of one or more menopausal symptoms [**aOR = 18.554, 95% CI (4.11,83.71)**]. (Table 4)

The multivariate analysis revealed that age and monthly family income were significantly associated with menopausal psychological symptoms. Accordingly, the odds of having psychological menopausal symptoms were about four times more common among women in the age group of 45–49 years compared with those in the age group of 40–44 years [**aOR = 3.909, 95%CI (1.738,8.795)**]. In addition, the odds of having psychological menopausal symptoms are 3.4 and 3.1 times more common among women with monthly family income of 1651 to 3200 and 3201 to 5250 ETB than women with monthly family income above 10,900 ETB [**aOR = 3.366, 95%CI (1.138,9.962)**] **and** [**aOR = 3.143, 95%CI (1.108,8.913)**] respectively. (Table 5).

The Multivariate logistic regression showed that the odds of having urogenital menopausal symptoms were approximately four and seven times higher in those women in the age group of 50–54 and 55–60 years than those 40–44 years age group women with **aOR=[4.029, 95%CI (1.353,11.995)]** and **aOR=[6.838, 95%CI (2.145,21.792)]** respectively. In addition, the odds of having urogenital menopausal symptoms were five times higher in merchant women than housewife women [**aOR = 5.305, 95%CI (1.968, 14.30)**]. Moreover, the presence of urogenital menopausal symptoms is associated with education, occupation, parity, and income. (Table 6).

Discussion

In this study, the overall prevalence of menopausal symptoms in all domains was reported very high (89.9%). This finding aligns closely with findings from Delhi-India, Karnataka-India, South Korea, Kathmandu-Nepal, Pokhara-Nepal, Sri Lanka, China, and Ibadan-Nigeria [7, 9, 40–43]. The prevalence of menopausal symptoms in the somatic, psychological, and urogenital domains was 73.6%, 75%, and 58.4%, respectively, indicating highly prevalent compared to the study conducted in Addis Ababa [5]. This elevated prevalence may be attributed to differences in the study population's age and participants' demographics. variability in findings has also been noted compared with studies in China, Cambodia, India, and Nepal [8, 43–46]. , highlighting how menopausal disorders vary based on women's cultural and socioeconomic contexts.

Table 4 Bivariate and multivariate logistic regression for factors associated with somatic symptoms

Variable	Somatic symptoms		*p*-value	COR with 95%CI	*P*-value	AOR with 95%CI
	Yes	No				
Age						
40–44	89	60	**0.003**	0.247(0.09,0.62)	**0.048**	**0.317(0.102, 0.990)**
45–49	75	6	0.230	2.083(0.63,6.91)	0.166	2.761(0.656, 11.62)
50–54	18	6	0.283	0.500(0.14,1.77)	0.745	1.279(0.291, 5.624)
55–60	36	6	1		1	
Education						
No formal education	48	6	**0.020**	3.265(1.21,8.84)	0.377	2.140(0.396, 11.56)
Primary	56	25	0.802	0.914(0.45,1.85)	0.555	0.739(0.270, 2.021)
Secondary	65	27	0.960	0.983(0.49,1.95)	0.569	0.768(0.310, 1.902)
College & above	49	20	1		1	
Monthly Family Income						
<=1650	6	2	0.569	0.571(0.083,0.916)	0.441	0.356(0.026, 4.937)
1651–3200	77	14	0.940	1.048(0.312,3.518)	0.311	0.457(0.100, 2.083)
3201–5250	63	29	0.135	0.414(0.130,1.315)	**0.017**	**0.175(0.042, 0.737)**
5251–7800	23	17	**0.032**	0.258(0.075,0.890)	**0.026**	**0.182(0.041, 0.912)**
7801–10,900	28	12	0.209	0.444(0.125,1.575)	0.233	0.417(0.099, 1.754)
> 10,900	21	4	1		1	
Parity						
Nulliparous	76	18	0.236	0.497(0.16,1.58)	0.450	1.856(0.373,9.231)
Primiparous	22	18	**0.002**	0.144(0.04,0.48)	0.079	0.218(0.040,1.192)
Multiparous	86	38	**0.019**	0.266(0.09,0.80)	0.571	0.648(0.145,2.904)
Grand multiparous	34	4	1		1	
History of physician visit						
Yes	58	2	**0.000**	13.775(3.27,57.89)	**0.000**	**18.554(4.11,83.71)**
No	160	76	1		1	

COR: crude odds ratio; aOR: adjusted odds ratio

Table 5 Bivariate and multivariate logistic regression for factors associated with psychological symptoms

Variable	Psychological symptoms		*p*-value	COR with 95%CI	*p*-value	aOR with 95%CI
	Yes	No				
Age						
40–44	97	52	1		1	
45–49	71	10	**0.000**	3.806(1.811,8.000)	**0.001**	**3.909(1.738,8.795)**
50–54	20	4	0.086	2.680(0.870,8.257)	0.134	2.523(0.751,8.471)
55–60	34	8	0.055	2.278(0.983,5.281)	0.170	2.002(0.742,5.402)
Monthly Family Income						
<=1650	6	2	0.448	2.00(0.334,11.96)	0.573	1.762(0.246,12.61)
1651–3200	76	15	**0.014**	3.378(1.277,8.93)	**0.028**	**3.366(1.138,9.962)**
3201–5250	74	18	**0.038**	2.741(1.058,7.09)	**0.031**	**3.143(1.108,8.913)**
5251–7800	27	13	0.539	1.385(0.49,3.911)	0.315	1.782(0.577,5.504)
7801–10,900	24	16	1.000	1.00(0.361,2.773)	0.924	1.056(0.344,3.244)
> 10,900	15	10	1		1	
Parity						
Nulliparous	75	19	1		1	
Primiparous	32	8	0.978	1.013(0.402,2.553)	0.487	1.461(0.502,4.249)
Multiparous	85	39	**0.065**	0.552(0.294,1.037)	0.160	0.582(0.273,1.238)
Grand multiparous	30	8	0.914	0.950(0.375,2.404)	0.407	0.622(0.202,1.914)
History of oral contraceptive use						
Yes	92	39	**0.092**	0.635(0.374,1.078)	0.613	0.849(0.449,1.602)
No	130	35	1		1	
History of physician visit						
Yes	51	9	**0.049**	2.154(1.003,4.624)	0.144	1.847(0.811,4.207)
No	171	65	1		1	

COR: crude odds ratio; aOR: adjusted odds ratio

Additionally, this study identified a significant association between the age and monthly family income of women with all three subscales of the menopausal rating scale. Older women reported more bothersome somatic and urogenital menopausal symptoms than younger women (aged 40–44). It is scientifically sound that such menopausal symptoms are more common in older menopausal women, as serum estrogen levels are abolished. Similar findings were noted in a study conducted in Egypt, where Essa found a significant correlation between age and menopausal symptoms [47].

Furthermore, women with relatively low monthly family income (1651–3200 ETB) experienced more psychological and urogenital symptoms than those with higher family incomes (>10900 ETB). This could be attributed to people with low income having other stressors in addition to underlying medical illnesses. These results are consistent with studies from Cambodia and India [46, 48, 49].

While factors such as occupation, education level, and parity were significantly associated with urogenital symptoms. However, marital status, employment status, absence of a partner, smoking, menarche, sexual inactivity, and use of COC did not demonstrate a significant relationship in this study. This contrasts with findings from research conducted in China, Saudi Arabia, India, the UK, Korea, and Egypt, where these factors were identified as significant predictors of various menopausal symptoms [47–53].

Our cross-sectional analysis revealed that the two most commonly reported individual menopausal symptoms, as per MRS, were physical and mental exhaustion (55.1%), followed closely by the most classical menopausal symptom i.e. hot flushes (54.7%). Interestingly, these prevalence rates are lower than those reported in studies from Malaysia, Nepal, Nigeria, Saudi Arabia, Addis Ababa, and Motta Ethiopia [5, 35, 54, 55]. Such discrepancies may reflect variations in symptoms reporting across different populations, ethnicities, and socio-demographic settings, as well as differences in sampling techniques and methodology.

Vaginal dryness was the least reported symptom, affecting 27% of sexually active women. As women transition to postmenopause, decreasing estrogen levels lead to vaginal atrophy and dryness. The lower prevalence of urogenital symptoms may suggest that women adapt to these symptoms over time, which may be viewed as a cultural norm in Ethiopia, where reduced sexual activity in older age is common. This phenomenon has also been observed in studies from India and Addis Ababa, Ethiopia [5, 48].

A notable finding of this study was the complete absence of hormone replacement therapy usage among participants, despite around 60(20.3%) women who had

Table 6 Bivariate and multivariate logistic regression for factors associated with urogenital symptoms

Variable	Urogenital symptoms		*p*-value	COR with 95%CI	*P*-value	aOR with 95%CI
	Yes	No				
Age						
40–44	73	76	1		1	
45–49	47	34	0.191	1.439(0.834,2.484)	0.213	1.532(0.783,2.998)
50–54	16	8	0.113	2.082(0.840,5.160)	**0.012**	**4.029(1.353,11.995)**
55–60	37	5	**0.000**	7.704(2.870,20.68)	**0.001**	**6.838(2.145,21.792)**
Occupation						
Housewife	68	52	1		1	
Merchant	27	8	**0.032**	2.581(1.084,6.146)	**0.001**	**5.305(1.968,14.30)**
Government employee	36	36	0.370	0.765(0.425,1.374)	0.949	0.973(0.418,2.265)
Private employee	33	25	0.977	1.009(0.536,1.901)	0.956	1.024(0.442,2.375)
Farmer	9	2	0.124	3.441(0.713,16.61)	0.253	3.295(0.426,25.504)
Education						
No formal education	44	10	**0.004**	3.385(1.468,7.805)	0.057	0.234(0.052,1.041)
Primary	46	35	0.974	1.011(0.529,1.933)	**0.028**	**0.320(0.116,0.883)**
Secondary	44	48	0.275	0.705(0.376,1.321)	**0.009**	**0.328(0.143,0.753)**
College & above	39	30	1		1	
Family monthly income						
<=1650	4	4	0.922	1.083(0.220,5.326)	0.503	2.079(0.244,17.704)
1651–3200	65	26	**0.031**	2.708(1.094,6.708)	**0.049**	**3.683(1.007,13.467)**
3201–5250	57	35	0.211	1.764(0.724,4.298)	0.209	2.121(0.657,6.845)
5251–7800	17	23	0.664	0.801(0.293,2.186)	0.608	1.413(0.377,5.302)
7801–10,900	18	22	0.813	0.886(0.325,2.414)	0.490	1.519(0.463,4.983)
> 10,900	12	13	1		1	
Parity						
Nulliparous	59	35	1		1	
Primiparous	19	21	0.103	0.537(0.254,1.134)	0.169	0.522(0.206,1.318)
Multiparous	60	64	**0.035**	0.556(0.322,0.961)	0.077	0.507(0.239,1.076)
Grand multiparous	35	3	**0.002**	6.921(1.981,24.18)	**0.045**	**5.164(1.037,25.72)**
Age of menarche						
<=12	18	13	0.456	0.741(0.337,1.629)	0.453	0.673(0.239,1.893)
13–14	56	57	**0.011**	0.526(0.320,0.865)	0.159	0.638(0.341,1.192)
>=14	99	53	1		1	
History of ever use of COC						
Yes	64	67	**0.003**	0.491(0.307,0.785)	0.188	0.667(0.365,1.219)
No	109	56	1		1	

COR: crude odds ratio; aOR: adjusted odds ratio

a history of seeking help from health professionals for menopausal complaints. This lack of HRT usage contrasts sharply with studies from other countries. For instance, a multi-ethnic study conducted in Singapore reported an overall MHT usage rate of 8.7%, with stratification by ethnicity MHT usage was 11.3% in Chinese, 8.6% in Indian, and 5.9% in Malay women [56]. The rate of MHT usage was 40.1% in Portuguese women living in Porto [57], 13% in the United States [58], 13% in Australia [59], 45% in Poland [60], and 16% in Germany [61]. The reasons behind the absence of MHT in this study warrant further investigation.

The strength of this research lies in its focus on a relatively unexplored but essential health problem in Ethiopia. The finding that menopausal symptom management is virtually non-existent in these large teaching hospitals raises significant concerns and provides valuable insight for healthcare providers and policymakers. In addition, the use of a validated questionnaire for assessing menopausal symptoms lends credibility to the study's findings, making this research a valuable baseline for future studies and enabling comparisons with research conducted in other settings. However, since the study exclusively involved governmental health institutions, which may not reflect the practice of MHT in private institutions, there is a need for further investigation in this area.

Conclusion and recommendation

The prevalence of menopausal symptoms is high, but individualized administration of hormone replacement therapy is non-existent in these institutions. It appears essential for these institutions to work on the service availability and delivery of menopausal hormone therapy for those in need of wider benefits for their clients. The underlying reason for the absence of ordering of menopausal hormonal therapy among health professionals working in gynecologic clinics requires further investigation.

Abbreviations

AAU	Addis Ababa University
AOR	Adjusted Odd Ratio
FMP	Final Menstrual Period
GSM	Genitourinary Syndrome of Menopause
GMH	Gandhi Memorial Hospital
HMIS	Health Management Information System
MHT	Menopausal Hormonal Therapy
MRS	Menopausal Rating Scale
RGOPD	Regular Gynecologic Outpatient Department
TASH	Tikur Anbessa Specialized Hospital
UK	United Kingdom
US	Ultrasound
VMS	Vasomotor Symptoms
WHO	World Health Organization
ZMH	Zewditu Memorial Hospital

Acknowledgements

We acknowledge Addis Ababa University, College of Health Sciences, for providing us with the opportunity to conduct this study. We also thank the participants for their participation in the study.

Author contributions

TG conceptualized, curated, analyzed, and interpreted the participants' data, and was the major contributor to writing the manuscript. RD contributed to the conceptualization, design, analysis, and writing of the manuscript. MT contributed to the conceptualization, design, analysis, and writing of the manuscript. All authors read and approved the final manuscript.

Funding

None.

Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the Institutional Review Board of the College of Health Sciences of Addis Ababa University. Data were collected after obtaining written informed consent from all participants. Data collection was confidential and no personal identifiers, such as name and phone number, were requested. All methods were performed according to the relevant ethical standards and guidelines.

Consent for publication

The authors affirm that informed consent was obtained from all research participants for publication of their data and patients signed written informed consent for the inclusion of their data in the publication.

Competing interests

The authors declare no competing interests.

Author details

[1]Department of Obstetrics and Gynecology, Dilla University, Dilla, Ethiopia
[2]Department of Obstetrics and Gynecology, College of Health Sciences, Addis Ababa University, Addis Ababa, Ethiopia
[3]Department of Health Sciences, Wachemo University, Hossana, Ethiopia

Received: 13 May 2024 / Accepted: 4 September 2024
Published online: 14 September 2024

References

1. Women. Ageing and Health: A Framework for Action. 2007.
2. Nations U, of Economic D, Affairs S, Division P. World Population Prospects 2019 Highlights.
3. Speroff's. Clinical gynecologic endocrinology and infertility, 9th edition.
4. P SH, J. B A, G TE. Impact of recent evidence on use of hormone therapy in the South African private sector (2001–2005). South Afr Fam Pract. 2008;50(6).
5. Yisma E, Eshetu N, Ly S, Dessalegn B. Prevalence and severity of menopause symptoms among perimenopausal and postmenopausal women aged 30–49 years in Gulele sub-city of Addis Ababa, Ethiopia. BMC Womens Health. 2017;17(1):124.
6. Pandey A, Karki C, Shrivastava VR, Shrestha D, Gautam P. Study of menopausal symptoms using menopause rating scale at a tertiary care center: a descriptive cross-sectional study. J Nepal Med Assoc. 2020;58(230):725–8.
7. Sharma S, Adhikari L, Karmacharya I, Kaphle M. Menopausal symptoms among Postmenopausal women of a selected municipality: a cross-sectional survey. J Nepal Med Assoc. 2021;59(243):1155–60.
8. Ojha N, Bista KD, Bajracharya S, Katuwal N. Genitourinary Syndrome of Menopause among Postmenopausal women in a Tertiary Care Centre: a descriptive cross-sectional study. J Nepal Med Assoc. 2022;60(246):126–31.
9. Subedi A, Shrestha J, Chaudhary JK. Menopausal symptoms among Postmenopausal Women Visiting Outpatient Department of a Tertiary Care Centre: a descriptive cross-sectional study. J Nepal Med Assoc. 2022;60(251):617–20.
10. Adhikari D, Bhurtyal A. Menopausal symptoms among middle-aged women and care providers' readiness to deliver menopausal services: an observational study in Kavrepalanchok, Nepal. Sex Reprod Heal Matters. 2022;29(2). https://doi.org/10.1080/26410397.2022.2141255
11. Avis NE, Crawford SL, Greendale G, Bromberger JT, Everson-Rose SA, Gold EB, et al. Duration of menopausal vasomotor symptoms over the menopause transition. JAMA Intern Med. 2015;175(4):531–9.
12. Bansal R, Aggarwal N. Menopausal hot flashes: a concise review. J Midlife Health. 2019;10(1):6–13.
13. Barnard ND, Kahleova H, Holtz DN, Del Aguila F, Neola M, Crosby LM, et al. The women's study for the alleviation of vasomotor symptoms (WAVS): a randomized, controlled trial of a plant-based diet and whole soybeans for postmenopausal women. Menopause. 2021;28(10):1150–6.
14. Zandi PP, Carlson MC, Plassman BL, Welsh-bohmer KA, Mayer LS, Steffens DC, et al. Incidence Alzheimer Disease Cache Cty Study. 2015;288(17):2123–9.
15. Contribution O. Effects of conjugated equine estrogen in. 2015;291(14):1701–12.
16. Rossouw JE, Carr JJ, Langer RD, Hunt JR, Ph D, Ludlam SE et al. Estrogen Therapy Coronary-Artery Calcification. 2007;2591–602.
17. Mor ADO. in It Sc in It. AJR Am J Roentgenol. 2017;186(2):227–36. https://pubmed.ncbi.nlm.nih.gov/28459981/
18. Wagner RA. Diseases of the Cardiovascular System. Biology and Diseases of the Ferret: Third Edition. 2014. 401–419 p.
19. Shumaker SA, Legault C, Rapp SR, Thal L, Wallace RB, Ockene JK et al. Estrogen Plus Progestin and the incidence of dementia and mild cognitive impairment in Postmenopausal Women. 2015;289(20):2651–62.
20. Investigation O. Conjugated Equine Estrogens and Coronary Heart Disease. 2015;166.
21. Study H. Postmenopausal Hormone Therapy Stroke. 2015;168(8):861–6.
22. Hulley S, Grady D, Bush T, Furberg C, Herrington D, Riggs B et al. Randomized Trial of Estrogen Plus Progestin for secondary Prevention of Coronary Heart Disease in Postmenopausal Women. 2015;280(7).
23. Martin KA, Manson JAE. Approach to the patient with menopausal symptoms. J Clin Endocrinol Metab. 2008;93(12):4567–75.
24. Schierbeck LL, Rejnmark L, Tofteng CL, Stilgren L, Eiken P, Mosekilde L et al. Effect of hormone replacement therapy on cardiovascular events in recently postmenopausal women: Randomised trial. BMJ. 2012;345(7881).

25. Baber RJ, Panay N, Fenton A. 2016 IMS recommendations on womens midlife health and menopause hormone therapy. Climacteric. 2016;19(2):109–50.
26. Lee SR, Cho MK, Cho YJ, Chun S, Hong S-H, Hwang KR, Jeon G-H, Joo JK, Kim SK, Lee DO, Lee D-Y, Lee ES. Jae Yen Song, Kyong Wook Yi, Bo Hyon Yun, Jung-Ho Shin, Hee Dong Chae corresponding. The 2020 Menopausal Hormone Therapy Guidelines. Menopausal Horm Ther Guidel. 2020; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7475284/#B101
27. Lee SR, Cho MK, Cho YJ, Chun S, Hong S-H, Hwang KR, et al. The 2020 menopausal hormone therapy guidelines. J Menopausal Med. 2020;26(2):69.
28. Shifren JL, Gass MLS, Kagan R, Kaunitz AM, Liu JH, Pinkerton JAV, et al. The North American Menopause Society recommendations for clinical care of midlife women. Menopause. 2014;21(10):1038–62.
29. Administration and control authority standard treatment guidelines Third Edition. 2014. 2014.
30. Ethiopian Food and drug authority and Ministry of health. Ethiop Essent Med List Sixth Ed Online J. 2020;4–7.
31. Eshetu N, Ly S, Yisma E. Knowledge and attitude of women aged 30–49 years towards menopause in Gulele Sub-city of Addis Ababa, Ethiopia. Ann Glob Heal. 2017;83(1).
32. Gebretatyos H, Ghirmai L, Amanuel S, Gebreyohannes G, Tsighe Z, Tesfamariam EH. Effect of health education on knowledge and attitude of menopause among middle-age teachers. BMC Womens Health. 2020;20(1):1–10.
33. Idris IM, Amr DA. Women's awareness about menopausal symptoms and its management: a cross-sectional study in 2 selected settings of Asmara, Eritrea. Glob Reprod Heal. 2021;6(4):e54–54.
34. Tsehay DS, Mulatie MM, Sellakumar GK. Determinants of menopausal symptoms and attitude among middle aged women: the case of Dangila town, Northwest Ethiopia. Innovare J Soc Sci. 2014;2(1).
35. Ayenew A, Yechale M, Nigussie A, Ayalew N. Women's Knowledge of Concept of Menopause, Severity, and Climacteric Stage Among Women in Middle Age in Northwest Ethiopia: Community-Based Cross-Sectional Study. Res Sq. 2021;July(2):1–26. https://doi.org/10.21203/rs.3.rs-638981/v1
36. Shams-eldin AA, Knowledge, attitude, and severity of menopausal symptoms, among women attending primary health care centers in Cairo., Egypt by. 2018;47(2).
37. Kibret B, tefera BG. Mariam. Menopausal experiences among women in Addis Ababa. Int J Psychiatry. 2019;4(1).
38. Peeyananjarassri K, Cheewadhanaraks S, Hubbard M, Zoa Manga R, Manocha R, Eden J. Menopausal symptoms in a hospital-based sample of women in southern Thailand. Climacteric. 2006;9(1):23–9.
39. Heinemann K, Ruebig A, Potthoff P, Schneider HPG, Strelow F, Heinemann LAJ, et al. The Menopause Rating Scale (MRS) scale: a methodological review. Health Qual Life Outcomes. 2004;2:1–8.
40. Singh A, Pradhan S. Menopausal symptoms of postmenopausal women in a rural community of Delhi, India: a cross-sectional study. J Midlife Health. 2014;5(2):62.
41. Article O. Experience and perceptions regarding menopause among rural women: A Cross–Sectional hospital–based study in South Karnataka. 2021;199–205.
42. Ryu K, Park H, Kim YJ, Yi KW, Shin JH, Hur JY et al. Maturitas Comparison of various menopausal symptoms and risk factor analysis in Korean women according to stage of menopause. Maturitas. 2020;140(February):41–8. https://doi.org/10.1016/j.maturitas.2020.05.023
43. Fong M, Mb C, Wun YT, Meng S, Mb P. Menopausal symptoms and the menopausal rating scale among midlife Chinese women in Macau. China Menopausal Symptoms Menopausal. 2014;(October):37–41.
44. Aarti K. July. Maharashtra-2015. 2015;(June):Part IV–C Extra 44 (17th 2015). http://www.webcitation.org/query?url=http%3A%2F%2Fegazzete.maha-online.gov.in%2FForms%2FGazetteSearch.aspx%3FMenuID%3D1124&date=2015-09-02
45. Armo M, Sainik S. Assessment of Menopausal Symptom Using Modified Menopause Rating Scale among Rural Women of Rajnandgaon in Chhattisgarh, a Central India Region. 2020.
46. Thapa R, Yang Y. Menopausal symptoms and related factors among Cambodian women. Women Heal. 2020;60(4):396–411. https://doi.org/10.1080/03630242.2019.1643815
47. Essa R. Factors Associated with the severity of menopausal symptoms among menopausal women factors Associated with the severity of menopausal symptoms among menopausal women Rasha Mohamed Essa, 2 Noha Mohamed Mahmoud. 2020;(March).
48. Khatoon F, Sinha P, Shahid S, Gupta U. Assessment of menopausal symptoms using modified menopause rating scale (MRS) in women of Northern India. Int J Reprod Contracept Obstet Gynecol. 2018;7(3).
49. Satapathy SP, Karmee N, Dash R. Prevalence of menopausal symptoms and its association with various factors among women in post menopausal age group: a cross-sectional study. Int J Reprod Contracept Obstet Gynecol. 2020;9(9):3837.
50. Alquaiz JM, Siddiqui AR, Tayel SA, Habib FA. Determinants of severity of menopausal symptoms among Saudi women in Riyadh city. Climacteric. 2014;17(1):71–8.
51. Duffy OK, Iversen L, Hannaford PC. Factors associated with reporting classic menopausal symptoms differ. Climacteric. 2013;16(2):240–51.
52. Essa RM, Mahmoud NM. Factors Associated with the severity of menopausal symptoms among menopausal women Rasha Mohamed Essa, 2 Noha Mohamed Mahmoud. IOSR J Nurs Heal Sci. 2018;7(2):29–40.
53. Zhang L, Gu M, Mueck AO. Menopausal Symptoms and Associated Social and Environmental Factors in Midlife Chinese Women. 2020.
54. Adefuye PO, Adefuye BO, Lamina MA, Shorunmu TO, Akindele RA. Menopause in Sagamu, southwest Nigeria. 2017;94(12). https://www.ajol.info/index.php/eamj/article/view/178678
55. AlDughaither A, AlMutairy H, AlAteeq M. Menopausal symptoms and quality of life among Saudi women visiting primary care clinics in Riyadh, Saudi Arabia. Int J Womens Health. 2015;7:645–53.
56. Soh BP, Man REK, Tham YC, Fenwick E, Yong TT, Wong TY, et al. Hormone replacement therapy (HRT): Utilisation Rates, determinants and impact on Health-Related Quality of Life in a multi-ethnic Asian Population. J Clin Diagn Res. 2020;14(1):2009–11.
57. Lucas R, Barros H. Life prevalence of hormone replacement therapy and profile of users have not changed among women with self-reported menopause in the last two decades in Porto, Portugal. Climacteric. 2008;11(1):26–31.
58. Mccarty ME, Thomas HN. Differences in patient-reported hormone therapy use for menopause symptoms by provider specialty. Climacteric. 2021;0(0):1–5. https://doi.org/10.1080/13697137.2021.1945026
59. Velentzis LS, Banks E, Sitas F, Salagame U, Tan EH. Use of menopausal hormone therapy and Bioidentical Hormone Therapy in Australian women 50 to 69 years of age: results from a National. Cross-Sectional Study. 2016;1–12.
60. Górecka K, Krzyżanowska M. Prevalence of menopausal hormone therapy and alternative methods, health benefits experienced by peri- and post-menopausal Polish women. 2022;21(1):27–36.
61. Heinig M, Braitmaier M, Haug U. Prescribing of menopausal hormone therapy in Germany: Current status and changes between 2004 and. 2016. 2021;(December 2020):462–71.

Publisher's note