

ORIGINAL ARTICLE



## Differences in patient-reported hormone therapy use for menopause symptoms by provider specialty

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### ABSTRACT

**Objective:** Hormone therapy (HT) is an effective treatment for menopause symptoms in select women. This study aimed to determine whether there is different prevalence of HT use based on patient report by women who see different provider specialties.

**Methods:** This study was a cross-sectional analysis of published data from the Survey of Midlife in the United States (MIDUS), a telephone or self-administered questionnaire of 3294 participants aged 39–90 years. Postmenopausal women were included. Self-reported HT use and provider specialty seen were each assessed by one question. Univariate logistic regression assessed factors possibly related to HT use. Variables with  $p < 0.1$  were entered into a multivariable logistic regression model.

**Results:** Of the 938 postmenopausal respondents, 720 (76%) saw a gynecologist for care. One-hundred and thirty-one (13%) women used HT for menopausal symptoms. Of women using HT, 72 (55%) saw a gynecologist. When controlling for other factors, women who saw a gynecologist had three times higher odds of using HT. The most frequently seen provider specialty was not associated with use.

**Conclusions:** Women who ever see a gynecologist are more likely to use HT for menopausal symptoms, but fewer women see gynecologists as they age. Generalists are the most seen provider specialty, positioning them to counsel patients about HT.

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### Introduction

As many as 85% of women will experience menopause-related symptoms in their lifetime. This includes vasomotor symptoms like hot flashes or night sweats, vaginal dryness or sleep disturbance [1]. It is estimated that vasomotor symptoms affect 40–50 million women in the USA, which negatively impacts quality of life as well as workplace productivity [2,3]. Menopausal symptoms are almost ubiquitous, yet we know little about by whom and how women are given therapies for their symptoms. Menopausal hormone therapy (HT) is an evidence-based treatment to alleviate vasomotor and vaginal symptoms, according to guidelines published by the North American Menopause Society, the American College of Gynecologists and the American Academy of Family Physicians [4–6]. However, research is lacking on prescribing practices for HT between different specialties.

In the past, it has been shown that physician specialty is significantly associated with HT use; specifically, women receiving care from gynecologists were 2.6 times more likely to be current HT users versus women seeing a family physician [7]. However, these data are from before the landmark Women's Health Initiative (WHI) was published. Using more objective data, with rates of HT prescriptions written and filled, it was shown that female providers as well as those who practice in gynecology, women's health or midwives

had higher frequencies of HT prescribing than primary care physicians [8]. Internists and family practitioners address more contraindications to HT than gynecologists as their patients have more comorbidities, which may affect their prescribing rates [9]. However, gynecologists have been shown to more appropriately assess risks and benefits as opposed to generalists, who overestimate the risks [10]. Generalists tend to feel the long-term effects of the WHI trial, with concerns regarding cardiovascular disease and breast cancer risk negatively affecting their prescribing practices [11]. A more recent study of mailed survey data highlighted the need for education regarding treatment of menopausal symptoms for primary care trainees [12]. Additionally, one in three women may no longer see a gynecologist for symptoms related to menopause as they leave their reproductive years, leaving internists poised to play a role in managing menopausal symptoms [13].

Most studies focus on physician views and practices. However, there is a paucity of research assessing menopausal women's use of HT from their point of view. Even when women are offered HT, they may not fill the prescription or continue in the long term [14]. It is important to assess the prevalence of HT use from the patient perspective. Therefore, the purpose of this study is to determine the prevalence of HT use in menopausal women based on whether they have ever seen a gynecologist for care as well

as which provider specialty they see most frequently, as reported by the women themselves.

## Materials and methods

### Population

We conducted a cross-sectional analysis using data from the Survey of Midlife in the United States (MIDUS) III (2013–2015) [15]. These data were collected via telephone interviews and self-administered questionnaires from individuals living in the mainland USA. The first wave of the MIDUS study consisted of a sample of 7108 individuals collected via random-digit dialing. Non-English-speaking and institutionalized individuals were excluded. Men and older adults were over-sampled. The third wave interviewed 3294 participants aged 39–90 years from the original 7108 for the MIDUS III study. For the current analysis, only postmenopausal women were included based on self-reported menopause status. Surgical menopause with oophorectomy and/or women aged 53 years and older with hysterectomy were included in our population. We excluded women who had a period within the last year, or if their periods stopped due to medication, pregnancy or weight loss. Women who were taking birth control or a fertility drug within the past 30 days were excluded. Women who had not been seen by a doctor or an advanced practice provider in the past 12 months were excluded. The final analytical sample size was 938 after excluding those who did not answer the question about HT use. All participants provided informed consent during the original data collection, and the Institutional Review Board of the University of Wisconsin-Madison approved the MIDUS study.

### Measures

Participants completed questionnaires regarding demographics, physical and mental health, and quality of life. The primary outcome, frequency of HT use in the last 30 days, was assessed by a single question as ‘During the past 30 days, how often have you taken a prescription medicine for hormone replacement, such as estrogen?’ (daily, a few times per week, once a week, a few times per month, once this month or not at all). For this analysis, HT was considered a dichotomous variable (any in the past 30 days versus none). The main predictor for analysis, if they saw a gynecologist ever for care, was assessed by a single question as ‘Who do you see for health care? Check all that apply.’ The secondary predictor for analysis, the most frequently seen health-care practitioner specialty, was also assessed by a single question. These answers were categorized into: generalist (family medicine or internist), obstetrician/gynecologist, other (chiropractor, physician’s assistant/nurse practitioner, other health-care professional, homeopathic/alternative/complementary/non-traditional) and no one in particular.

Several covariates were assessed. Respondents were asked their usual health-care setting, including private clinic, health maintenance organization (HMO), public health clinic,

hospital outpatient clinic, hospital emergency room, urgent care or other/no usual place, as well as whether they had health insurance. With yes or no questions, respondents were also asked whether they ever see a family doctor or internist for care. The number of times seeing a doctor or having a physical examination within the past year, the number of chronic conditions and the number of prescription medications taken in the past 30 days were assessed. Self-reporting of anxiety/depression, history of stroke, heart attack, cancer including breast, ovarian and uterine, as well as cigarette smoking status were assessed by yes/no questions. Health and quality of life rating was assessed using a scale of 0–10, with 0 = worst and 10 = best. Frequency of menopause-related symptoms in the past 30 days was assessed by self-reported frequency of irritability, hot flashes, leaking urine and intercourse pain/discomfort.

### Statistical analyses

Means, medians, standard deviations and percentages, as appropriate, were used to describe postmenopausal women who were taking or not taking HT. Univariate logistic regression was used to assess factors that may be related to HT use, including demographics and medical history such as using birth control in the past or having a contraindication to HT use, such as active cancer. Variables with  $p < 0.10$  were entered into a multivariable logistic regression model to evaluate the relationship between provider specialty and HT use. These variables included gynecologist ever seen for health care, most seen health-care provider specialty, age, number of chronic conditions, ever had breast cancer, ever had hysterectomy, ever had oophorectomy and frequency of pain with intercourse in the past 30 days. All statistical analyses were conducted with StataMP 16.0 (StataCorp).

## Results

### Demographics

Of the 938 postmenopausal female respondents, 720 (52%) saw a gynecologist for care. For the most frequently seen provider, 714 (76%) saw a family doctor or an internist most frequently, 28 (3%) saw a gynecologist most frequently, 219 (13%) saw another provider type most frequently and 16 (2%) saw no one in particular most frequently. One-hundred and thirty-one (13%) women used HT for menopausal symptoms in the past 30 days; 72 (55%) of these women saw a gynecologist for care, while 59 (45%) did not. Of these women, 98 (75%) saw a family doctor or internist most frequently, 2 (2%) saw a gynecologist most frequently, 29 (22%) saw another provider type most frequently and 1 (1%) saw no one in particular most frequently. Three hundred and ninety-eight participants (22%) did not respond to whether or not they were using HT. The women who did not respond were slightly older with an average age of 69 years (standard deviation = 10 years). Otherwise, they were similar to women who answered this question.

**Table 1.** Characteristics of menopausal women currently using hormone therapy and not using hormone therapy in the Survey of Midlife in the United States (MIDUS) III ( $N = 938$ ).

Variable	Use menopausal HT ( $n = 131$ )	Do not use menopausal HT ( $n = 852$ )
Age (years), mean (SD)	64 (10)	66 (10)
Race		
White	120 (92)	757 (89)
Black	3 (2)	39 (5)
Other	8 (6)	53 (6)
Highest education		
High school graduate or less	38 (29)	274 (32)
Some college or degree	68 (52)	420 (50)
Graduate work or degree	24 (18)	153 (18)
Income (\$), mean (SD)	47,677 (49,406)	38,719 (41,160)
Marital status		
Married	88 (68)	511 (60)
Not married	42 (32)	339 (40)
Body mass index ( $\text{kg}/\text{m}^2$ ), mean (SD)	27 (5)	28 (7)
Number of chronic conditions, mean (SD)	5 (4)	4 (3)
Total number of medications taken daily in past 30 days, mean (SD)	2 (2)	1 (1)
Number of times seeing a medical doctor in 12 months, mean (SD)	4 (4)	4 (5)
Gynecologist ever seen for health care		
Yes	72 (55)	648 (76)
No	59 (45)	200 (24)
Most seen health-care provider		
Family medicine/internist	98 (75)	616 (73)
Gynecologist	2 (2)	26 (3)
Other	29 (22)	190 (22)
No one in particular	1 (1)	15 (2)
Most visited health-care place		
Private clinic	113 (86)	685 (81)
HMO clinic	6 (5)	60 (7)
Public health clinic	1 (1)	17 (2)
Hospital outpatient clinic	0 (0)	10 (1)
Hospital emergency room	1 (1)	8 (1)
Urgent care	4 (3)	22 (3)
Other	3 (3)	34 (4)
No usual place	2 (2)	12 (1)
History of anxiety/depression		
Yes	88 (68)	204 (24)
No	42 (32)	635 (76)
History of stroke		
Yes	3 (2)	36 (4)
No	128 (98)	814 (96)
Ever had a heart attack		
Yes	2 (2)	15 (2)
No	128 (98)	819 (98)
Ever had breast cancer		
Yes	2 (2)	63 (9)
No	114 (98)	662 (91)
Ever had ovarian cancer		
Yes	0 (0)	2 (0.3)
No	114 (100)	662 (99)
Ever had uterine cancer		
Yes	1 (1)	14 (2)
No	114 (99)	662 (98)
History of hysterectomy		
Yes	98 (75)	331 (39)
No	33 (25)	521 (61)
History of oophorectomy		
Yes	76 (58)	251 (30)
No	55 (42)	599 (70)
Current smoker		
Yes	6 (11)	86 (24)
No	51 (89)	270 (76)
Rating of overall quality of life, mean (SD)	8 (2)	8 (2)
Frequency of hot flashes in last 30 days		
Monthly or less	92 (75)	632 (76)
Daily to weekly	31 (25)	195 (24)
Frequency of pain with intercourse in last 30 days		
Monthly or less	107 (90)	702 (95)
Daily to weekly	12 (10)	34 (5)

Data presented as  $n$  (%) unless otherwise indicated. Some data were not included in all surveys, causing some columns to not add up to  $n = 131$  for HT use or  $n = 852$  for no HT use. There were no notable differences between the groups for these descriptive data. HT, hormone therapy; SD, standard deviation.

Characteristics of women using HT and women not using HT are summarized in Table 1. The mean age of women using HT was younger than women not using HT (64 years [standard deviation = 10 years] versus 66 years [standard deviation = 10 years], respectively). Self-reported history of anxiety/depression was more common in HT users than non-users (64% and 24%, respectively). Most respondents were White, without contraindications to HT use (i.e. history of stroke, heart attack, venous thromboembolism, breast, uterine or ovarian cancer) and did not have hysterectomy or oophorectomy.

### Factors associated with HT use

In multivariate models, seeing a gynecologist for care was associated with three times greater odds of HT use when controlling for other factors (odds ratio [OR] 3.48 [95% confidence interval (CI) 2.21–5.49],  $p < 0.0001$ ) (Table 2). Specialty of the most seen health-care provider was not associated with the rate of HT use ( $p = 0.26$ ). More chronic health conditions and history of hysterectomy were associated with greater odds of HT use (OR 1.07 [95% CI 1.01–1.14],  $p = 0.03$  and OR 3.77 [95% CI 2.14–6.12],  $p < 0.0001$ , respectively). History of breast cancer was associated with lower odds of HT use (OR 0.21 [95% CI 0.05–0.91],  $p = 0.03$ ).

### Discussion

Among middle-aged women across the continental USA, the overall prevalence for HT use for menopausal symptoms was 13%, which is similar to rates seen with other studies looking at HT use during this timeframe [16]. The prevalence of HT use did not vary significantly by which provider type was seen most frequently. However, women who ever saw a gynecologist for care had three times higher odds of HT use. This is consistent with prior research from 20 years ago showing that gynecologists are more likely to prescribe HT than generalists, highlighting continued differences in prescribing practices despite new evidence since the WHI of risks and benefits regarding HT [8]. This study confirms this from a patient perspective as well, since we used self-reported data. This raises the possibility that generalists may be under-utilizing a safe and effective treatment for menopausal symptoms. Prior studies have indicated that generalists overestimate the risks as compared to their gynecologist colleagues, and this may explain why women being primarily seen by a generalist are not on HT [10]. Improved training for medical students, residents and faculty in the assessment and treatment of menopausal symptoms, including accurate risk assessment, will help close knowledge gaps. This was seen when a 2-year menopause curriculum was provided to obstetrics and gynecology residents [17]. This may ultimately ensure that women receive evidence-based treatment based on shared decision-making.

Given that these data are cross-sectional, causality of this association cannot be determined. We cannot tell whether women seeing a gynecologist are more likely to have HT offered, or whether women with more severe menopausal

symptoms seek out a gynecologist to obtain HT. Prior studies have indicated that symptomatic women are more likely to seek out treatment and that gynecologists are more likely to provide HT prescriptions than primary care colleagues [8,18]. We also know that gynecologists are seeing younger women while generalists are more likely to see older patients and/or patients with more health problems and, thus, more contraindications to HT [19]. However, we controlled for age and comorbidities in this analysis, so this is less likely to be confounding our results.

This study highlights an opportunity for generalists to provide evidence-based menopause symptom management, including prescribing HT, as over a quarter of women surveyed no longer see a gynecologist. Generalists are the most often seen health-care practitioner specialty by 75% of menopausal and postmenopausal women, allowing them more opportunities to counsel these patients about menopause symptom management. Additionally, generalists more commonly see menopausal women with multiple comorbidities than gynecologists, allowing them to approach symptom-related management from a more holistic approach. Continued education for generalists will enhance their ability to prescribe treatment for menopause symptoms.

There are strengths to this study. The dataset is nationally representative and provides a wide variety of covariates that would be difficult to obtain on a smaller scale. However, our study has several limitations. The MIDUS III study lacks diversity, as the majority of the respondents were White, non-Hispanic and heterosexual. Approximately one-quarter of female respondents had an oophorectomy, while the rate in the general population is approximately 10%, which may limit generalizability. Additionally, 22% of women did not respond to the question about taking HT, which may result in bias. Based on the sample size, we had to combine family medicine and internal medicine practitioners as generalists despite their significant differences in training. While we limited our inclusion criteria to women who had been seen by a health-care provider within the last year to help determine differences between provider specialties and prescribing, this may have led to a selection bias as women who do not use HT may be more likely to not have regular medical follow-up. Menopausal symptoms were assessed by frequency of self-reported symptoms and not by menopause symptom rating scales, which may limit the generalizability of these covariates. Additionally, menopause status was based upon self-report and we are unable to ascertain when onset of menopause occurred, limiting the ability to determine whether women were using HT within 10 years of starting menopause or at age younger than 60 years, as recommended by current North American Menopause Society (NAMS) guidelines [6].

### Conclusion

Menopausal symptoms are common, affecting approximately 85% of women during their lifetimes, and negatively affect quality of life. Women who ever versus never see a gynecologist are more likely to use HT for menopausal symptoms,

**Table 2.** Multivariable factors associated with women-reported prevalence of hormone therapy use for menopausal symptoms in the Survey of Midlife in the United States (MIDUS) III.

Variable	OR for taking HT (95% CI)	p-Value	Overall p-value
Gynecologist ever seen for health care	3.48 (2.21, 5.49)		< 0.001
Most seen health-care provider specialty			0.26
Family practice/internist	1 [referent]		
Gynecologist	0.28 (0.06, 1.31)	0.11	
Other	0.90 (0.53, 1.51)	0.68	
Age	1.00 (0.97, 1.02)		0.72
Number of chronic conditions	1.07 (1.01, 1.14)		0.03
Ever had breast cancer (versus no)	0.21 (0.05, 0.91)		0.04
Ever had hysterectomy (versus no)	3.77 (2.14, 6.12)		< 0.001
Ever had oophorectomy (versus no)	1.63 (0.96, 2.76)		0.07
Frequency of pain with intercourse past 30 days			< 0.001
Monthly or less	1 [referent]		
Daily-weekly	2.06 (0.95, 4.49)	0.07	

All variables listed were included in the multivariable model. CI, confidence interval; HT, hormone therapy; OR, odds ratio.

but fewer women see gynecologists as they age. A majority of women see generalists most frequently at that point in their lives, giving them more opportunities to counsel patients about risks and benefits of HT. Ensuring physicians from various specialties receive adequate training in menopausal women's health will help ensure that all menopausal women have access to effective treatments.

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## Data availability statement

Publicly available data from the MIDUS study were used for this research.

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