

ORIGINAL ARTICLE

Does the menopausal status of female gynecologists affect their prescription of menopausal hormone therapy?

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ABSTRACT

Objective: To evaluate whether menopausal status and symptoms among female gynecologists would influence their clinical behavior related to menopausal hormone therapy (MHT).

Methods: Female gynecologists of 11 Latin American countries were requested to fill out the Menopause Rating Scale and a questionnaire containing personal information and that related to MHT use.

Results: A total of 818 gynecologists accepted to participate (86.4%). Overall, the mean age was 45.0 ± 10.7 years, 32.2% were postmenopausal, and 17.6% worked in an academic position; 81.8% reported that they would use MHT if they have symptoms, regardless of menopausal status. Academic gynecologists favor personal MHT use at a higher rate ($p = 0.04$) and have a higher MHT prescription rate as compared to non-academic ones ($p = 0.0001$). The same trend was observed among post- as compared to premenopausal ones ($p = 0.01$) and among those who had hysterectomy alone as compared to those experiencing natural menopause ($p = 0.002$). The presence of menopausal symptoms did not influence their MHT prescription. Current use of MHT and alternative therapy was higher among post- than premenopausal gynecologists (both, $p = 0.0001$) and among those who had undergone hysterectomy than those experiencing natural menopause. A 38.5% perceived breast cancer as the main risk related to MHT, and a high proportion prescribed non-hormonal drugs (86.4%) or alternative therapies (84.5%).

Conclusion: Most female gynecologists in this survey would use MHT if menopausal symptoms were present. Postmenopausal physicians use MHT and prescribe it to their symptomatic patients at a higher rate than premenopausal physicians.

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Introduction

Postmenopausal estrogenic deficiency deteriorates female quality of life¹ and increases the risk of chronic diseases^{2,3}. Menopausal hormone therapy (MHT) is an important therapeutic weapon used to counteract the consequences of this deficit, improving quality of life⁴ and also decreasing the risk of chronic diseases⁵ and probably mortality⁶. However, after the publication of the results of the Women's Health Initiative (WHI) study showing that, in relation to chronic disease, MHT was associated with more risks than benefits⁷, its use has declined severely among postmenopausal women⁸. Although different authors have stated that the results of the WHI study have selection bias⁹, and that methodological errors distort results¹⁰, MHT use has never returned to rates reported prior to the publication of this study.

In a previous study that included 11 Latin American countries, our research group reported that the main cause for low use of MHT was the low prescription rate among

physicians¹¹. However, and despite the results of the WHI, different studies have shown that male physicians would mostly prescribe MHT to their partners or would use it in the case of women gynecologists¹²⁻¹⁴. Moreover, one study, analyzing the clinical behavior of board-certified obstetricians and gynecologists of New York City after the publication of the WHI study, stated that they prescribe hormone therapy to fewer patients; however, they continue to use it for themselves at much higher rates¹⁵.

A recently published study performed by our group¹⁶ found that 85.4% of more than 2000 surveyed gynecologists from 11 Latin American countries would use MHT in the event of experiencing menopausal symptoms (themselves or their wives in the case of men: women 81.8% vs. men 88.2%, $p < 0.001$). This gender-related behavioral difference among gynecologists led us to perform this secondary analysis, now focusing specifically on female gynecologists, who, as well as their patients, experience or will personally experience the effects of the climacteric. Our hypothesis is that their

menopausal status and their symptoms would influence their clinical behavior in relation to MHT use.

Methods

Study design and participants

We recently reported data of the REDLINC study VII performed by the Collaborative Group for Research of the Climacteric in Latin America¹⁶, in which 2154 certified gynecologists (men and women) working in Latin American cities with more than 500 000 inhabitants (including peripheral towns) were invited to complete a survey regarding MHT use. Researchers and their corresponding cities are detailed at the end of this paper. The present document addresses only data of female gynecologists who were surveyed in order to evaluate their behavior related to MHT (personal and patient use, perceived risks and prescription). The research protocol of this study was reviewed and approved by the Scientific Ethics Committee of the Servicio de Salud Metropolitano Sur, Santiago de Chile, Chile. Informed consent was obtained from each professional prior to filling out the survey. More details regarding sample size calculation and methodology of the overall study can be found elsewhere¹⁶.

Used instruments

The overall survey was self-administered and anonymous and included personal data such as age, sex, partner status and place of work. The questionnaire was validated at each site prior to its implementation. The present publication analyzes only the responses of female gynecologists and is related specifically to the following aspects involving them: (1) whether they favor personal MHT use in the event of experiencing menopausal symptoms; (2) the presence of moderate/severe menopausal symptoms; (3) their perceived level of risk related to MHT use (evaluated from 0 to 10, with zero being no risk and 10 the highest risk); (4) their specific perceived risks related to MHT use; (5) the percentage of their symptomatic patients to whom they prescribe MHT; and (6) the prescription rate of non-hormonal or alternative therapies for the management of the menopausal symptoms. Female gynecologists were also asked about their current menstrual

status, history of gynecological surgery and the current use of MHT or alternative therapies for the menopause. The Menopause Rating Scale (MRS) was used to evaluate menopausal symptoms¹⁷. A total MRS score of >8 was used to define women having moderate/severe menopausal symptoms¹⁸.

Statistical analysis

The EPI-INFO statistical program (Version 7.1.5, 2015, Centers for Disease Control and Prevention, Atlanta, GA, USA) was used for data analysis. Results are presented as mean \pm standard deviations and percentages (95% confidence intervals, CI). The Kolmogorov–Smirnov test was used to assess the normality of data distribution and the Bartlett test to evaluate the homogeneity of the measured variance. According to this, group comparisons were performed with the Student's *t* test (parametric continuous data) or the Mann–Whitney *U* test (non-parametric continuous data). Percentages were compared with the χ^2 test. A *p* value of <0.05 was considered as statistically significant.

Results

A total of 2154 gynecologists from 28 health centers in Latin American countries were contacted and invited to participate. Of these, 947 were female gynecologists, with 86.4% (*n* = 818) accepting to take part in the study. The mean age of all surveyed women was 45.0 \pm 10.7 years, with 32.2% being postmenopausal, 75.3% having a current partner and 17.6% being professors at the University. Postmenopausal gynecologists were older (56.3 \pm 6.0 vs. 39.7 \pm 7.9 years, *p* = 0.0001) and currently had a partner at a lower rate than premenopausal ones (70.3% vs. 77.7%, *p* = 0.02).

The influence of menopausal status on these female gynecologists regarding MHT behavior is presented in Table 1; 27.4% of all surveyed women displayed moderate/severe menopausal symptoms as assessed with the MRS scale, with a higher rate observed among postmenopausal as compared to premenopausal ones (52.9% vs. 15.3%, *p* = 0.0001). Of all surveyed women, 81.8% would use MHT if they were experiencing menopausal symptoms, with no differences in this

Table 1. Influence of female gynecologists' menopausal status on behavior related to menopausal hormone therapy (MHT) (use, perceived risks and prescription). Data are given as mean \pm standard deviation or percentage (95% confidence interval).

Parameters	All (<i>n</i> = 818)	Premenopausal (<i>n</i> = 555)	Postmenopausal (<i>n</i> = 263)	<i>p</i> Value
Presents moderate/severe menopausal symptoms ^d	27.4 (24.4–30.6)	15.3 (12.5–18.6)	52.9 (46.6–59.0)	0.0001 ^a
Favors personal MHT use	81.8 (78.9–84.3)	80.0 (76.4–83.2)	85.6 (80.7–89.6)	NS ^a
Currently uses MHT	16.7 (14.3–19.5)	6.5 (4.6–9.0)	38.4 (32.5–44.6)	0.0001 ^a
Currently uses alternative therapies	13.7 (11.4–16.3)	7.7 (5.7–10.4)	26.2 (21.0–32.0)	0.0001 ^a
Perceived level of risk related to MHT use (scale 0–10)	4.1 \pm 2.2	4.1 \pm 2.2	3.9 \pm 1.9	NS ^b
Top two perceived risks (% replies)				
breast cancer	38.5 (35.2–42.0)	39.8 (35.7–44.0)	35.7 (29.9–41.9)	NS ^a
thromboembolic disease	33.6 (30.4–37.0)	31.9 (28.1–36.0)	37.3 (31.4–43.4)	NS ^a
% of symptomatic women to whom they prescribe MHT	47.3 \pm 29.4	45.6 \pm 29.3	50.8 \pm 29.4	0.01 ^c
% of physicians treating the menopause with:				
non-hormonal drugs	86.4 (83.8–88.7)	85.4 (82.1–86.9)	88.6 (84.1–92.2)	NS ^a
alternative therapies	84.5 (81.8–86.9)	84.0 (80.6–86.9)	85.6 (80.7–89.6)	NS ^a

NS, non-significant

p values when comparing postmenopausal women with premenopausal ones: ^a, χ^2 test; ^b, Mann–Whitney *U* test; ^c, Student's *t* test; ^d, total scores on Menopause Rating Scale >8

rate observed if menopausal status is taken into account. Overall, 16.7% of female gynecologists currently used MHT, with postmenopausal ones currently using MHT and alternative therapies for the menopause at a higher rate than the premenopausal gynecologists (38.4% vs. 6.5%; and 26.2% vs. 7.7%, respectively, both, $p = 0.0001$). A similar perceived level of risk related to MHT use was observed between pre- and postmenopausal women. When asked about the perceived risk (% of replies), the two answers with the highest percentages were breast cancer and thromboembolic disease, with no differences observed in relation to menopausal status. On the other hand, menopausal status did influence their prescription behavior (% of the symptomatic women to whom they prescribe). Indeed, the average MHT prescription rate to their symptomatic patients was higher among postmenopausal gynecologists as compared to premenopausal ones ($50.8 \pm 29.4\%$ vs. $45.6 \pm 29.3\%$, $p = 0.01$). A high rate of all surveyed physicians prescribed non-hormonal drugs (86.4%) or alternative therapies (84.5%) to manage menopausal symptoms, with no differences observed between pre- and postmenopausal gynecologists.

The influence of presenting menopausal symptoms among female gynecologists regarding MHT behavior is depicted in Table 2. Women displaying symptoms currently used MHT and alternative therapies at a higher rate than those without symptoms (32.6% vs. 10.8%; and 29.5% vs. 7.7%, respectively, both, $p = 0.0001$). No other differences were observed except for the fact that symptomatic gynecologists perceived breast cancer as the greatest risk involved with MHT use at a higher rate than those who were asymptomatic (44.2% vs. 36.5%, $p = 0.04$).

Women gynecologists working at universities in an academic position also presented differences in terms of their clinical behaviors related to MHT use as compared to those not in an academic position (Table 3). In general, female academic gynecologists favor personal MHT use at a higher rate (87.5% vs. 80.4%, $p = 0.04$), have an average higher MHT prescription rate among their symptomatic patients ($55.9 \pm 27.1\%$ vs. $45.5 \pm 29.6\%$, $p = 0.0001$) and use alternative therapies for the menopause at a lower rate (6.3% vs. 15.3%, $p = 0.004$).

No other significant differences were observed in other analyzed aspects.

As mentioned, 263 (32.2%) of the studied female gynecologists were postmenopausal. Table 4 shows the influence of the type of menopause and hysterectomy alone regarding their MHT behavior. Gynecologists who had a history of hysterectomy plus bilateral oophorectomy presented moderate/severe menopausal symptoms at a higher rate when compared to those with a natural menopause; however, this was non-significant (63.0% vs. 52.9%, $p > 0.05$). The rate of current MHT use was higher among women having hysterectomy alone and hysterectomy plus oophorectomy as compared to those having natural menopause (51.1% and 59.3% vs. 32.5%, respectively, $p < 0.05$). Current use of alternative therapy was significantly higher among women with a history of hysterectomy plus oophorectomy as compared to those having a natural menopause (44.4% vs. 25.1%, $p < 0.05$). Women gynecologists who had undergone hysterectomy alone displayed a higher average MHT prescription rate among their symptomatic patients, as compared to those who had a natural menopause ($62.2 \pm 25.6\%$ vs. $47.7 \pm 29.7\%$, $p = 0.002$).

Discussion

Our study shows that a high rate of female gynecologists (81.8%) would use MHT if they were experiencing menopausal symptoms, without menopausal status influencing this decision. This is interesting as premenopausal gynecologists obviously have less menopausal symptoms than postmenopausal ones, meaning that their behaviors are likely to be influenced by medical knowledge instead of the personal perception of their own menopausal symptoms. This observation agrees with a US study showing that, among physicians, intended future use of MHT was significantly associated with being an obstetrician/gynecologist and having more extensive, recent and continuing medical education¹⁹. Although the menopausal status of female gynecologists in our study did not influence their predisposition to use MHT, postmenopausal ones had more symptoms and, therefore, used MHT more frequently. We also observed that this postmenopausal

Table 2. Influence of presenting menopausal symptoms on behavior among female gynecologists relating to menopausal hormone therapy (MHT) (use, perceived risks and prescription). Data are given as mean \pm standard deviation or percentage (95% confidence interval).

Parameters	Moderate/severe menopausal symptoms ^d		p Value
	Absent (n = 594)	Present (n = 224)	
Age (years)	42.3 \pm 9.8	52.3 \pm 9.3	0.0001 ^a
Favors personal MHT use	80.6 (77.2–83.7)	84.8 (79.4–89.3)	NS ^b
Currently uses MHT	10.8 (8.5–13.6)	32.6 (26.5–39.2)	0.0001 ^b
Currently uses alternative therapies	7.7 (5.8–10.3)	29.5 (23.6–35.9)	0.0001 ^b
Perceived level of risk related to MHT use (scale 0–10)	4.0 \pm 2.2	4.1 \pm 1.8	NS ^c
Top two perceived risks (% replies)			
breast cancer	36.5 (32.7–40.6)	44.2 (37.6–51.0)	0.04 ^b
thromboembolic disease	34.5 (30.7–38.5)	31.3 (25.2–37.8)	NS ^b
% of symptomatic women to whom they prescribe MHT	46.7 \pm 29.8	48.8 \pm 28.3	NS ^a
% of physicians treating the menopause with:			
non-hormonal drugs	86.7 (83.6–89.3)	85.7 (80.4–90.0)	NS ^b
alternative therapies	83.7 (80.4–86.5)	86.6 (81.4–90.8)	NS ^b

NS, non-significant

p values when comparing symptomatic vs. non symptomatic women: ^a, Student's *t* test; ^b, χ^2 test; ^c, Mann-Whitney *U* test; ^d, total scores on Menopause Rating Scale > 8

Table 3. Effect of having an academic position on female gynecologists relating to menopausal hormone therapy (MHT) (use, perceived risks and prescription). Data are given as mean \pm standard deviation or percentage (95% confidence interval).

Parameters	Academic position		p Value
	No (n = 674)	Yes (n = 144)	
Age (years)	44.9 \pm 10.6	45.8 \pm 10.8	NS ^a
Favors personal MHT use	80.4 (77.3–83.2)	87.5 (81.0–92.4)	0.04 ^b
Female gynecologist with moderate/severe menopausal symptoms ^d	27.9 (24.6–31.5)	25.0 (18.2–32.9)	NS ^b
Currently uses MHT	17.2 (14.5–20.3)	14.6 (9.3–21.4)	NS ^c
Currently uses alternative therapies	15.3 (12.7–18.3)	6.3 (2.9–11.5)	0.004 ^b
Perceived level of risk related to MHT use (scale 0–10)	4.0 \pm 2.2	4.3 \pm 1.8	NS ^a
Top two perceived risks (% replies)			
breast cancer	38.6 (34.9–42.4)	38.2 (30.2–46.7)	NS ^b
thromboembolic disease	32.9 (29.4–36.6)	36.8 (28.9–45.2)	NS ^a
% of symptomatic women to whom they prescribe MHT	45.5 \pm 29.6	55.9 \pm 27.1	0.0001 ^a
% of physicians treating the menopause with:			
non-hormonal drugs	86.1 (83.2–88.5)	88.2 (81.8–93.0)	NS ^b
alternative therapies	85.2 (82.2–87.7)	81.3 (73.9–87.3)	NS ^b

NS, non-significant

p values when comparing women with an academic position vs. those without: ^a, Student's *t* test; ^b, χ^2 test; ^c, Mann-Whitney *U* test; ^d, total scores on Menopause Rating Scale >8**Table 4.** Influence of the type of menopause and hysterectomy alone on therapeutic behaviors of female gynecologists relating to menopausal hormone therapy (MHT) (use, perceived risks and prescription). Data are given as mean \pm standard deviation or percentage (95% confidence interval).

Parameters	Natural menopause (n = 191)	Hysterectomy alone (n = 45)	Hysterectomy + bilateral oophorectomy (n = 27)
Age (years)	56.3 \pm 5.7	54.9 \pm 7.0	58.4 \pm 5.9
Female gynecologists with moderate/severe menopausal symptoms ^b	52.9 (45.5–60.1)	46.7 (31.7–62.1)	63.0 (42.4–80.6)
Currently uses MHT	32.5 (25.9–39.6)	51.1 (35.8–66.3) ^a	59.3 (38.8–77.6) ^a
Currently uses alternative therapies	25.1 (19.1–31.9)	20.0 (9.6–34.6)	44.4 (25.5–64.7) ^a
Perceived level of risk related to MHT use (scale 0–10)	4.0 \pm 1.9	3.7 \pm 1.9	3.7 \pm 2.2
Top two perceived risks (% replies)			
breast cancer	37.2 (30.3–44.4)	33.3 (20.0–49.0)	29.6 (13.8–50.2)
thromboembolic disease	37.7 (30.8–45.0)	42.2 (27.7–57.8)	25.9 (11.1–46.3)
% of symptomatic women to whom they prescribe MHT	47.7 \pm 29.7	62.2 \pm 25.6 ^a	54.1 \pm 29.1
% physicians treating the menopause with:			
non-hormonal drugs	90.1 (84.9–93.9)	86.7 (73.2–94.9)	81.5 (61.9–93.7)
alternative therapies	86.4 (80.7–90.9)	88.9 (75.9–96.3)	74.1 (53.7–88.9)

^a, *p* < 0.05 as compared to natural menopausal women as determined according to each case with the appropriate test; ^b, total scores on Menopause Rating Scale >8

group prescribes MHT at a higher rate to their symptomatic patients than their premenopausal colleagues. We hypothesize that a possible explanation for this difference is that postmenopausal gynecologists encounter women requesting treatment options to decrease their symptoms and, as the gynecologist is equally affected, she easily empathizes with the patient and will be more prone to prescribe MHT. Regardless of health problems, the characteristics of patients and physicians influence drug prescription²⁰. However, this does not seem to be the case in our study, as gynecologists with more menopausal symptoms did not prescribe more MHT than those having less symptoms. Interestingly, female gynecologists who work at universities favor personal MHT use at a higher rate and prescribe it to their symptomatic patients at a higher rate than non-academic female gynecologists.

The present study shows a higher use of MHT among female postmenopausal gynecologists (38.4%) than in the general Latin American population (12.5%)¹¹. These figures of MHT use by Latin American female gynecologists are not far from those published in the US stating that 47.4% (versus approximately one-quarter of the users in the general

population) of postmenopausal female physicians use MHT¹⁹. We also found that one-third of female physicians who experienced natural menopause were using MHT at the time of the survey, a rate that increased to a half among hysterectomized and/or bilaterally oophorectomized women, groups that tend to use MHT more frequently due to their more intense symptomatology²¹. Another explanation for the higher use of MHT among hysterectomized doctors would be their awareness that treatment with estrogen alone has been associated with lower breast cancer risk²².

Overall, current MHT use among our female gynecologists was 16.7%. Although this rate is considered low, as compared to the era before the WHI study, it is quite similar to the rate observed for the use of alternative therapies (13.7%). This could possible mean two things: (1) if the rate of alternative use be considered low, it reflects a consensus that their beneficial effects over symptoms is still controversial²³, or (2) if the rate of use is now considered high, it reflects a tendency toward abandoning MHT for alternative options, which is in correlation with what others have reported²⁴. Interestingly, our results show that, although alternative therapy use is higher among those who are postmenopausal, have

symptoms, or have had hysterectomy plus oophorectomy, the rate is lower among those with an academic position. This indeed highlights the important role that scientific knowledge has in influencing the choice of any given therapeutic option.

Regarding the risks related to MHT use, our study shows that the main risk perceived by female gynecologists is breast cancer, followed by thromboembolic disease. This is in agreement with a Spanish study reporting cancer as the main perceived risk related to MHT use²⁵. The perceived level of risk was not significantly modified by menopausal status, type of menopause or hysterectomy alone, intensity of menopausal symptoms or university affiliation. It is worth mentioning that, although professionals had a moderate perceived level of risk related to MHT use, the prescription rate of non-hormonal and/or alternative therapies for the menopause exceeds hugely that of MHT. In agreement with the latter, a study carried out in 15 regional centers in the UK (between 2001 and 2005) found that 60.2% of women had used MHT, but in 2006 only 12.3% continued MHT. Of those who had discontinued MHT, 89.7% reported that they had used one or more complementary and alternative treatments²⁶.

The observed high willingness to use MHT by all our surveyed female gynecologists, regardless of their menopausal status, associated with the higher use among those being postmenopausal, indicates that, although the WHI caused a negative effect on the general female population, it had little impact on physicians. This had already been noted by Biglia and colleagues²⁷ who stated that, after the WHI publication, only 8% of women doctors and 4% of doctors' wives stopped MHT. The high use of MHT by female doctors reflects the fact that many started it on their own initiative and bearing in mind long-term prevention²⁸.

The fact that female gynecologists use MHT more frequently than the general population is not an insignificant issue. Physicians are an important source of information of the risks and benefits of MHT, being able to have a determinant influence on patient's attitudes and the acceptance of its use²⁹. Postmenopausal doctors who take MHT are more likely to advise their patients to use it; thus, 44% of female gynecologists using MHT advise their postmenopausal patients to use it for at least 1 year, contrary to those who do not use MHT who only prescribe it to 22% of their patients¹⁹.

In our opinion, the main weakness of our study was that the invitation to participate was made by opinion leaders who are involved in the care of climacteric women. Although this aided in achieving a very high response rate, surveyed gynecologists may have been influenced by the position of these leaders, hence showing a more favorable behavior toward MHT. On the other hand, we did not record perceived risk in relation to the type of MHT: estrogen alone vs. estrogen + progestogen. This may also be considered a potential limitation.

In conclusion, the present Latin American survey found that most female gynecologists, regardless of their menopausal status, would use MHT if menopausal symptoms are present. Postmenopausal gynecologists, especially those with surgical menopause, use MHT and prescribe it to their symptomatic patients at a higher rate than premenopausal ones.

Non-hormonal and alternative therapies were the most prescribed options to treat menopausal symptoms.

Participating countries, investigators and city

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