



COMPETENCIES OF PRIMARY HEALTH CARE PHYSICIANS TOWARD PERIMENOPAUSAL COUNSELING IN EASTERN PROVINCE, SAUDI ARABIA

Gynaecology

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ABSTRACT

Introduction: Menopausal changes can be distressing and risk women health. Physicians have a vital role to prepare women to pass menopause safely. This study assessed knowledge, practice, and barriers toward perimenopausal counseling among primary health care (PHC) physicians in Eastern Province; Saudi Arabia.

Methodology: It was a cross-sectional study conducted from March 2017 till May 2018 among 310 physicians in three representative sectors of the Eastern Province. An electronic self-administrated questionnaire designed and validated by the researchers was used.

Results, Conclusion and Recommendations: A response rate of 79.7% was obtained. Results showed 94.3% of the physicians had fair knowledge with a mean of total knowledge score of 11/24. Their knowledge defect was mainly in hormonal therapy and mental health related problems. Most participants reported discussing menopausal symptoms (86.7%), assessing for osteoporosis (93%) and cardiovascular risks (91.5%). However, 56.7% never counseled patients about hormonal therapy. Among those who were prescribing hormonal therapy, the main reasons were for management of vasomotor symptoms (24.7%) and osteoporosis (23.5%). Lack of experience and time constraint were perceived as major barriers affecting the counseling (84.2% and 79%, respectively). This study encourages menopausal training and practice among physicians.

KEYWORDS

Perimenopausal counseling; primary health care; physicians.

Introduction

Menopause is defined by World Health Organization (WHO) as “the permanent cessation of menstruation resulting from the loss of ovarian follicular activity” [1]. It happens with the final menstrual period (FMP) and is confirmed after 12 successive months of absence of menses [1]. It is usually seen between 47 and 55 years of age with a mean of 47.9 in Saudi women according to one national study [2]. There are various terms related to menopause with its definitions according to WHO. Premenopause is defined as “the entire reproductive period up to FMP” [1]. However, perimenopause is “the period immediately prior to the menopause when the endocrinological, biological, and clinical features of approaching menopause commence and the first year after menopause” [1]. Moreover, postmenopause is defined as “dating from the FMP regardless of whether the menopause was induced or spontaneous” [1].

Menopause experience may vary according to the individual, culture, ethnicity, and stage of menopause [2]. Without management, more than 75% of menopausal women will have complications such as vasomotor and somatic symptoms, psychiatric and sexual problems in addition to osteoporosis and cardiac diseases [3]. These problems can lead to financial loss, dysfunction, and death [4]. Moreover, in 10% of women, menopausal symptoms may persist for up to 10 years [5].

By 2030, it is expected that billions of women will be peri or postmenopause with an increment rate of 4.7 million per year [6]. For that, physicians started to consider menopause as an important health issue [6]. In addition, perimenopausal problems enforce 90% of women to seek medical advice [7]. This emphasizes the necessity of physicians to have a good level of knowledge and skills to identify and treat menopausal complications [8].

Physicians need to clarify menopausal changes and misconceptions with their patients [9]. Appropriate counseling will ease menopause and provide safe postmenopausal years [9]. Physicians, particularly primary health care (PHC), have a vital role to prepare female patients for menopause and protect them from its complications. Therefore, physicians need an adequate knowledge and favorable practice toward menopause.

Most of Saudi studies related to menopause focused on symptoms in terms of severity, determinants, and effects. However, none of the

national surveys discussed menopausal counseling among physicians. Moreover, the best time for physicians to initiate the counseling is around menopause for early avoidance of adverse outcomes and timely intervention. This study was designed to be the first Saudi study to assess knowledge, practice, and barriers toward perimenopausal counseling related to menopausal problems among physicians in PHC setting. It provided an idea and platform regarding the need for a focused training program to physicians or implementation of menopausal clinic services at primary care level.

Methodology (Materials and Methods)

Study Area/ Time

This study was conducted among physicians of Ministry of Health (MOH) primary health care centers in three major representative sectors in Eastern Province (Dammam, Khobar, and Qatif). Data collected during the period of March 2017 till the end of May 2018.

Study Subjects

All working physicians in all PHC centers in the three sectors were included with exception of:

- Dentists and pediatricians.
- Any PHC physician with pure administrative work or with no patients contact service.
- Any PHC physician who is unwilling to participate.

Study Design

A descriptive analytical cross-sectional study through a self-administered validated questionnaire.

Sample Size

Lists of physicians' information were taken from administrative centers in the three sectors. The total number of physicians included was 310 divided as 149 in Dammam whereas 70 and 91 physicians in Khobar and Qatif respectively.

Sampling Technique

All included physicians in all PHC centers of Dammam, Khobar, and Qatif sectors working at the time of the study were considered.

Data Collection Methods and Study Tool

The questionnaire was constructed by the researchers after thorough

review of literature and clinical practice guideline of Society of Obstetricians and Gynaecologists of Canada (SOGC) 2014 to match the study objectives [10]. The first version of the questionnaire was evaluated by 4 family medicine consultants, 3 gynecologists, and 1 public health specialist to ensure the content validity and modified accordingly. The questionnaire ended with sociodemographic section and parts related to perimenopausal counseling knowledge, practice, and barriers.

Then the questionnaire underwent piloting among 30 family medicine residents of MOH in the Eastern Province who were not included in the main study to assure questionnaire clarity and suitability. After piloting, no further modifications were needed. Reliability was checked by Cronbach's (alpha) test. Total Cronbach' alpha was 0.7 that is acceptable to start the study.

Two medical interns were recruited for sending the questionnaire using official lists of physicians' mobile numbers that was provided by PHC administrative centers. Non-responders were sent a reminder messages twice with an intervals of 1 week and 1 month respectively to increase the response rate. Directors of PHC centers were also contacted to send the questionnaire to their staff physicians to get more response.

Data management and Analysis Plan

Any questionnaire filled less than half was excluded. Data were entered by personal computer and analyzed using Statistical Package of Social Services (SPSS) software version 22. Numerical data were entered unchanged whereas some categorical variables were coded before entry and were checked before analysis.

After data entry, total knowledge score was calculated out of 24 for each physician with one point was given for each correct answer (0= incorrect answer or I do not know, 1= correct answer). Then, grading of total knowledge score was performed based on the mean and SD of total knowledge score as follow:

- Two SD above the mean: good
- Within two SD from the mean: fair
- Two SD below the mean: poor

Practice and barriers questions were scored using Likert scale.

Numerical data was presented in mean and standard deviation whereas categorical data was presented in frequency and percentages. A suitable statistical test was applied according to the type of data with the help of research statistician. Regression test was used to measure the statistical association between total knowledge score and average number of women seen per week and the last time reading about menopause. Furthermore, independent t-test was used to evaluate the statistical correlations between total knowledge score with gender and attending menopausal workshops. Additionally, the associations between total knowledge score with marital status, job, specialty, sector, years of experience, and physicians' perception of their knowledge were all assessed by ANOVA. A p-value of < 0.05 was considered significant.

Study strength

Up to the researchers' knowledge, this study is the first Saudi study that investigates knowledge, practice, and barriers toward perimenopausal counseling among PHC physicians. It involves large sample size in multiple PHC centers. The tool used in the study underwent multiple processes of validation to ensure accurate measurement of objectives and to add validated tool to the literature.

Study limitations

Only three sectors were involved and hence results could not be generalized to all PHC physician in Eastern Province. Moreover, the majority of the sample were residents with limited years of experience which could affect the results of knowledge and practice of perimenopausal counseling. Additionally, it is an observational cross-sectional study. Therefore, temporality and causality between observed relations cannot be determined with no follow up to the sequences of events.

Ethical considerations

- Before the implementation of this study, approval was taken from local Institutional Review Board (IRB) research committee.
- Approval from family medicine program in Eastern Province and Department of Planning and Training of East Health was taken

before conducting the research as well.

- Dammam, Khobar, and Qatif PHC administrative centers approval were available to conduct the study among the physicians without disturbing their work time.
- The aim of the study was clearly notified on the front page of the sent questionnaire. It was also clearly stated that answering the questionnaire reflects an agreement to participate in the study.
- Confidentiality of data and anonymity were considered and information was used only for research purposes.
- the researchers have no conflict of interest.

Results

Table 1: Sociodemographic characteristics of the sample (n=247)

Quantitative data description	Mean ± SD	Total (%)	Missing value; Frq. (%)
Age:	34.66 ± 7.409	244 (98.8)	3 (1.2)
Qualitative data description	Frequency (%)	Total (%)	Missing value; Frq. (%)
Gender:		247 (100.0)	0 (0)
• Male	83 (33.6)		
• Female	164 (66.4)		
Nationality:		247 (100.0)	0 (0)
• Saudi	216 (87.4)		
• Non Saudi	31 (12.6)		
Marital status:		246 (99.6)	1 (0.4)
• Single	32 (13)		
• Married	206 (83.4)		
• Divorced	6 (2.4)		
• Widow	6 (2.4)		
Job:		247 (100.0)	0 (0)
• Resident	193 (78.1)		
• Specialist	40 (16.2)		
• Consultant	14 (5.7)		
Specialty		246 (99.6)	1 (0.4)
• Family medicine	144 (58.3)		
• Ob/Gyn	3 (1.2)		
• General practitioners	89 (36)		
• Other	10 (4)		
Last education degree:		247 (100.0)	0 (0)
• Bachelor	163 (66)		
• Diploma	34 (13.8)		
• Master	7 (2.8)		
• Board or PhD	43 (17.4)		
Sector:		247 (100.0)	0 (0)
• Dammam	107 (43.3)		
• Khobar	50 (20.2)		
• Qatif	90 (36.4)		
Years of experiences:		247 (100.0)	0 (0)
• ≤ 5 years	112 (45.3)		
• > 5-10 years	74 (30)		
• > 10 years	61 (24.7)		
Current administrative responsibilities:		245 (99.2)	2 (0.8)
• Yes	90 (36.4)		
• No	155 (62.8)		

Key: SD= Standard deviation; %= Percentage; Frq.= Frequency
Sociodemographic characteristics of the sample are indicated in Table 1. The mean age of physicians responded was 34.66 ± 7.409 years. Around 43% of the physicians were from Dammam sector while 20.2% and 36.4% were from Khobar and Qatif sectors respectively. Two-third of the sample were female (66.4%) and the majority were Saudi (87.4%), married (83.4%) and residents (78.1%). More than half of the physicians (58.3%) were family medicine certified. However, 36% were general practitioners, 1.2% had ob/gyn specialty and 4%

were with other included specialties. Two third of the physicians had bachelor as their last education degree and near half (45.3%) had

experience of ≤ 5 years. Almost 63% of the sample reported not having current administrative responsibility.

Table 2: Experience and training of the sample (n=247)

<i>Quantitative data description</i>	<i>Mean $\pm$ SD</i>	<i>Total (%)</i>	<i>Missing value; Frq. (%)</i>
Average number of women seen per week between 40-60 years:	31.37 $\pm$ 39.063	243 (98.4)	4 (1.6)
Last time reading about menopause and its management by year(s):	2.139 $\pm$ 3.2646	246 (99.6)	1 (0.4)
<i>Qualitative data description</i>	<i>Frequency (%)</i>	<i>Total (%)</i>	<i>Missing value; Frq. (%)</i>
Number of days per week spend in the clinic:		247 (100.0)	0 (0)
• 1-2	18 (7.3)		
• 3-4	22 (8.9)		
• 5	207 (83.8)		
Attending any course or workshop related to menopause:		246 (99.6)	1 (0.4)
• Yes	32 (13)		
• No	214 (86.6)		
Grading knowledge regarding ability to manage women in perimenopause effectively:		246 (99.6)	1 (0.4)
• Not confident at all	25 (10.1)		
• Not good, have lots of learning needs	72 (29.1)		
• Good, but recognize have learning needs	130 (52.6)		
• Fairly confident	17 (6.9)		
• Extremely confident	2 (0.8)		

Key: SD= Standard deviation; %= Percentage; Frq.= Frequency

Most of the participants (83.8%) spent 5 days per week in the clinic. In addition, they reported seeing an average of 31.37 ± 39.063 middle age women per week. The majority of the physicians (86.6%) did not attend any course or workshop related to menopause. Moreover, their average time regarding last reading about menopause and its management was since 2.139 ± 3.2646 years. About half of the physicians (52.6%) graded their knowledge regarding their ability to manage women in perimenopause effectively as good but recognize have learning needs. In contrast, 29.1% of them graded their knowledge as not good and have lots of learning needs and minority stated not confident at all (10.1%), fairly confident (6.9%) and extremely confident (0.8%). (Table 2)

Table 3: Total knowledge scores (n= 247)

	<i>Mean $\pm$ SD</i>	<i>Median</i>	<i>Mode</i>	<i>Minimum</i>	<i>Maximum</i>
Total knowledge score	11.26 $\pm$ 3.27	12	12	0	19

Key: SD= Standard deviation

The mean of the physicians' total knowledge scores was 11.26 ± 3.27 SD (minimum: 0, maximum: 19) as shown in table 3. The majority of

physicians answered 12 questions correctly out of 24.

Figure 1: Total knowledge score ranges among the PHC physicians (n=247)

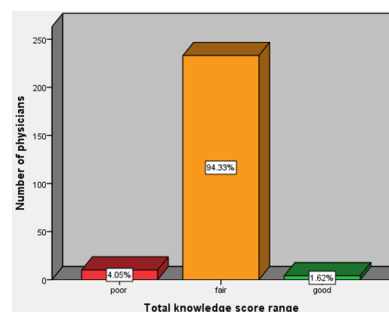


Figure 1 illustrates that the majority of the physicians (94.3%) had fair knowledge regarding perimenopausal counseling. They achieved total knowledge scores between 4.72- 17.8 out of 24. In contrast, almost 4% had poor knowledge with total scores <4.72 whereas only 1.6% are found to have good knowledge and got >17.8 out of 24.

Table 4: Proportion of physicians answered knowledge statements correctly (n=247)

• Majority of women experience 4 to 8 years of menstrual cycle changes before natural menopause	149 (60.3)
• Hormone measurements are routinely indicated to determine menopause status	159 (64.4)
• Primary ovarian insufficiency should be considered in female less than 45 years with menopausal symptoms	64 (25.9)
• Menopause can result in an accelerated increase in LDL cholesterol	142 (57.5)
• Weight gain is likely to be related to aging and lifestyle than to menopause itself	158 (64)
• Hormonal therapy is effective for prevention of cardiac diseases in menopausal women	93 (37.7)
• Treatment for hot flashes is indicated if symptoms are bothersome and disrupt sleep	205 (83)
• Estrogen replacement therapy is approved for relief of moderate to severe hot flashes	178 (72.1)
• Soy isoflavones are highly beneficial treatment for hot flashes	22 (8.9)
• Any heavy or irregular bleeding in perimenopause should be thoroughly evaluated	201 (81.4)
• Abnormal uterine bleeding in perimenopause could be a presentation of cervical cancer	170 (68.8)
• Perimenopausal heavy or irregular bleeding can be treated with low-dose oral contraceptives in low-risk patients	169 (68.4)
• Major depression disorder can happen more in perimenopausal than younger women	22 (8.9)
• Selective serotonin reuptake inhibitors (SSRIs) are effective to treat low mood in non-depressed menopausal women	31 (12.6)
• Hormone replacement therapy is good for treating low mood of menopause	85 (34.4)
• Women with stress incontinence are encouraged to lose weight	163 (66)
• Systemic estrogen therapy is recommended for urinary urge incontinence	88 (35.6)
• Combination of systemic HRT and vaginal estrogen can be used to treat vaginal atrophy	139 (56.3)
• Assessment of female sexual dysfunction during menopause include serum androgen measurements	41 (16.6)
• Hormonal therapy is the most effective medical therapy for menopausal symptoms	158 (64)
• Estrogen therapy alone is adequate for women who have an intact uterus	79 (32)
• Combined hormone replacement therapy increase breast cancer risk after 5-10 years of treatment	33 (13.4)
• Hormone replacement therapy is effective for prevention of osteoporosis	186 (75.3)
• Common HRT side effect include severe abdominal pain	48 (19.4)

Key: %= Percentage; HRT= hormone replacement therapy

Table 4 reveals the percentage of physicians correctly answered knowledge statements about perimenopausal counseling. Around two-thirds of the physicians were knowledgeable about menopause physiology (60.3%) and clinical diagnosis (64.4%). In contrast, only 25.9% of participants were able to define primary ovarian insufficiency. Majority of physicians appropriately responded to statements related to menopausal bleeding (evaluation (81.4%), etiology (68.8%) and treatment (68.4%)). On the other hand, less than half of the participants recognized the effect of menopause on the

mood and the role of HRT. However, most of them appreciated the role of HRT in menopausal symptoms and osteoporosis (64% and 75.3% respectively). Responses to cardiovascular, vasomotor symptoms and vulvovaginal complications related statements were variable between physicians. Ineffectiveness of HRT on cardiovascular prevention in menopause was appropriately recognized by 37.7% of the physicians. Additionally, few physicians were aware of complementary therapy to manage hot flashes (8.9%) and the need for sexual assessment during menopause (16.6%).

Table 5: Correlation between total knowledge scores and sociodemographic factors (n=247)

Independent variable	Total knowledge score	
Quantitative variable	P Value	Test of significance
Average number of women seen per week between 40-60 years:	0.261	regression
Last time reading about menopause and its management by year(s):	0.001*	regression
Qualitative variable	P Value	Test of significance
Gender:	0.108	independent t-test
Marital status:	0.732	ANOVA
Job:	0.000*	ANOVA
Specialty:	0.010*	ANOVA
Sector:	0.413	ANOVA
Years of experience:	0.093	ANOVA
Attending any course or workshop related to menopause:	0.046*	independent t-test
Grading knowledge regarding the ability to manage women in perimenopause effectively:	0.000*	ANOVA

The meaning is statistically significant at less than 0.05

Table 5 shows the association between physicians' total knowledge scores and some sociodemographic and training factors. Based on least significant difference analysis, specialists and consultants significantly achieved higher total knowledge scores than residents ($P = 0.000$). In addition, those with family medicine specialty got a higher score than GPs ($P = 0.010$). Physicians who attended menopause course or workshop acquired significantly higher scores as well ($P = 0.046$). There was an inverse relation between total knowledge scores

and the last time reading about menopause and its management. It was indicated that those who read for a long time had a lower score and vice versa ($P = 0.001$). In addition to that, physicians who graded their knowledge to manage perimenopausal women as not confident at all were found to have lower total knowledge scores ($P = 0.000$). No other significant relation was found between total knowledge scores and sample characteristics.

Table 6: The perceived practice of perimenopausal counseling among the PHC physicians (n=247)

Practice item	Never	Rarely	Sometimes	Often	Always	Total (%)	Missing value;
	Frq. (%)	Frq. (%)	Frq. (%)	Frq. (%)	Frq. (%)		Frq. (%)
Discussing menopausal symptoms:	30 (12.1)	46 (18.6)	81 (32.8)	57 (23.1)	30 (12.1)	244 (98.8)	3 (1.2)
Assessing osteoporosis risk:	21 (5.8)	33 (13.4)	72 (29.1)	81 (32.8)	37 (15)	244 (98.8)	3 (1.2)
Assessing cardiovascular risk:	18 (7.3)	22 (8.9)	57 (23.1)	77 (31.2)	70 (28.3)	244 (98.8)	3 (1.2)
Prescription or referral for HRT:	140 (56.7)	35 (14.2)	40 (16.2)	20 (8.1)	10 (4)	245 (99.2)	2 (0.8)

Key: %= Percentage; Frq.= Frequency

Table 6 demonstrates perimenopausal counseling practice of the participants. It was noted that most of the physicians discuss menopausal symptoms with their patients, whereas 12.1% of the physicians never do it. In addition, only 15% of the physicians always

assess the osteoporosis risk and 28.3% of them always assess the cardiovascular risk. On the other hand, more than half of the physicians (56.7%) never prescribed or referred their patients for HRT. Only 4% indicated that they always practice that.

Table 7: Reasons for prescription or referral for HRT among PHC physicians (n=247)

Reason item	Yes	No	Total (%)	Missing value;
	Frq. (%)	Frq. (%)		Frq. (%)
Treatment of vasomotor symptoms:	61 (24.7)	184 (74.5)	245 (99.2)	2 (0.8)
Prevention of cardiovascular diseases:	48 (19.4)	197 (79.8)	245 (99.2)	2 (0.8)

Prevention or treatment of osteoporosis:	58 (23.5)	187 (75.7)	245 (99.2)	2 (0.8)
Treatment of cognitive symptoms:	35 (14.2)	210 (85)	245 (99.2)	2 (0.8)
Other reasons:	7 (2.8)	238 (96.4)	245 (99.2)	2(0.8)

Key: Frq.= Frequency; : %= Percentage

Table 7 displays the reasons for prescription or referrals for HRT among physicians who practice that. The main reasons for referral were for vasomotor symptoms treatment (24.7%) and osteoporosis

prevention or treatment (23.5%). Around 20% of the physicians prescribe or refer their patient to prevent cardiovascular diseases, 14.2% to treat cognitive symptoms, and 2.8% for other reasons.

Table 8: Barriers toward perimenopausal counseling among the PHC physicians (n=247)

Barrier	Strongly disagree Frq. (%)	Partially disagree Frq. (%)	Partially agree Frq. (%)	Strongly agree Frq. (%)	Total (%)	Missing value; Frq. (%)
Cultural beliefs:	29 (11.7)	30 (12.1)	91 (36.8)	90 (36.4)	240 (97.2)	7 (2.8)
Lacking of staff:	18 (7.3)	38 (15.4)	91 (36.8)	94 (38.1)	241 (97.6)	6 (2.4)
Lacking of time:	16 (6.5)	29 (11.7)	100 (40.5)	95 (38.5)	240 (97.2)	7 (2.8)
Lacking of competency and experience:	11 (4.5)	21 (8.5)	98 (39.7)	110 (44.5)	240 (97.2)	7 (2.8)
Unavailability of medications:	22 (8.9)	38 (15.4)	80 (32.4)	100 (40.5)	240 (97.2)	7 (2.8)
Fear of medications side effects and abuse:	17 (6.9)	51 (20.6)	82 (33.2)	90 (36.4)	240 (97.2)	7 (2.8)
Poor patient adherence:	16 (6.5)	69 (27.9)	103 (41.7)	53 (21.5)	241 (97.6)	6 (2.4)

Key: %= Percentage; Frq.= Frequency

Table 8 shows that approximately two-thirds of the sample reported cultural beliefs, lack of staff, unavailability, and fear of medications side effects and abuse as barriers affecting the practice of perimenopausal counseling. Lack of time and experience were perceived as a major barrier affecting the counseling. Poor patient adherence was considered as affecting the counseling practice in 63.2% of the sample.

Discussion

Menopause is a significant period of women life. It can lead to different complaints with varying degrees. Counseling perimenopausal women regarding menopause will prevent menopausal complications and provide a better quality of life for this population. Primary health care physicians are supposed to be competent in perimenopausal counseling. They are the first contact with patients and should provide promotive and continuous care for them.

Physicians' knowledge in perimenopausal counseling :

In the current study, 247 PHC physicians had participated. The majority were females (66.4%) and Saudi physicians (87.4%) constitute most of the sample. About half were family medicine certified (58.3%) but with limited years of experience. Eighty four percent of the physicians were observed to have fair knowledge in perimenopausal counseling with average scores of 11 out of 24 (Figure 1). Their knowledge defect was noted in different menopausal aspects, mainly in HRT and mental health related questions. More than two-thirds of the physicians were not knowledgeable regarding depression prevalence in different menopausal stages. Most of them were also unaware of the ineffectiveness of SSRI on mood changes among non-depressed menopausal women. Moreover, the majority of participants lacked information about indications of HRT use and side effects although 64% and 75.3% of them correctly appreciated the role of HRT in menopausal symptoms improvement and osteoporosis prevention respectively. Additionally, few physicians were aware of the uncertainty of complementary therapy in hot flashes treatment (8.9%) and non-necessity of serum androgen measurement in sexual evaluation in menopause (16.6%). On the other hand, the majority of the physicians correctly responded to statements related to

menopausal definition and management of vaginal bleeding during menopause (Table 4). This finding indicates a high level of awareness among participants regarding menopause definition and inherent serious causes of menopausal bleeding.

Although half of the physicians in this study perceived they have good knowledge on how to manage perimenopausal women's common problems, their total knowledge scores found to be low. Conversely, it was found that those who graded their knowledge as not confident at all, got lower scores ($P=0.000$).

Other surveys displayed low knowledge about menopause and its management among primary and health practitioners similar to this study [4,6]. Even gynecologists and ob/gyn residents in international surveys reported a deficit in knowledge of recent updates in hormonal therapy and menopause [11,12]. While this study investigated the menopause knowledge from multiple aspects, many surveys studied mainly HRT part, showed low level of knowledge among primary care and ob/gyn physicians as well [13,14]. Only a few studies among Australian and Norwegian health care professionals revealed satisfactory level of knowledge related to menopause and HRT in particular [15,16].

Factors affecting physicians' knowledge in perimenopausal counseling :

The low level of knowledge reported in this study could be attributed to many reasons. Lack of experience may be one of the reasons, as nearly half of the participants had ≤ 5 years of practice and the majority were residents. Although no correlation was identified between total knowledge scores and number of menopausal women seen ($P=0.261$) similar to the result of Jane F Wilkinson et al. survey [17]. Insufficient training might be another factor as 86.6% of the sample did not attend any postgraduate menopausal courses. Likewise, low level of awareness about recent guidelines could be another explanation. Since physicians who were exposed to menopausal activities significantly achieved higher scores ($P=0.046$) compared to those who read about menopause since long time achieved lower score ($P=0.001$). These effects were similar to some international results [3].

Additionally, this study revealed higher knowledge scores among experienced physicians like specialists and consultants and those with family medicine specialty ($P=0.000$, $P=0.010$ respectively). Family physicians were observed to be more knowledgeable than general practitioners (GPs) and achieved similar scores to other specialties. Alternatively, other surveys showed better menopausal knowledge among ob/gyn physicians compared with primary health care staff [13,18]. On the contrary, Yeganeh L et al. study found physicians' specialties didn't make any differences in knowledge between Australian GPs, gynecologist, and endocrinologists [15]. This may reflect that family physicians are competent in perimenopausal counseling since it is part of health promotion practice.

Furthermore, gender, marital status and years of experience were found to be poorly correlated to knowledge scores in this study in comparison to other surveys which showed heterogeneous results [13, 16, 18, 19]. Diouf AA et al. survey showed that the more knowledgeable health staff were those with <9 years of experience [18]. Taylor HS et al. found more HRT knowledge among female physicians and those with more years of practice [13]. Also, female GPs in the study conducted by Bjorn Gjelsvik et al. found to be more informed regarding menopausal HRT [16]. These heterogeneous findings probably point out to poor menopausal training among physicians of both gender, regardless of their marital status and current practice

Physician's practice of perimenopausal counseling :

Fortunately, 86.6% of the physicians in the current study reported discussing menopausal symptoms with their patients and the majority were assessing osteoporosis and cardiovascular risks. However, more than half (56.7%) of the sample were never prescribed or referred for HRT (table 6). The low HRT prescription rate in this study possibly due to lack of knowledge and training regarding HRT especially after the results of women health initiative (WHI) study. Additionally, unavailability of medications and fear from their side effects might be another factor. These findings were similar to several international surveys [6, 11, 14, 20, 21, 22]. Conversely, in Castelo-Branco C et al. the rate of not prescribing HRT were very low (10% and 19.4%) among gynecologists and GPs respectively [23].

Among those who prescribe or refer for HRT, the main reasons were to manage vasomotor symptoms (24.7%) and for osteoporosis prevention or treatment (23.5%). This practice was nearly the same as in other surveys [6, 21, 23]. This might explain the high prevalence of vasomotor and osteoporosis related complaints among menopausal women (table 7).

Barriers to perimenopausal counseling :

Different barriers to practice perimenopausal counseling were identified in this study although they were not discussed clearly in the literature (table 8). The most frequent barrier mentioned by the majority of the physicians was lack of competency and experience (84.2%). This barrier matches the low level of knowledge and positive attitude of the physicians toward having educational workshops and menopausal clinics. The second most common barrier noted was lack of time (79%). The time factor was also described in other surveys to interfere with menopause management and found as the main barrier in some of studies [17, 24, 25, 26]. Lack of time is an expectant barrier with the complexity of menopausal symptoms in addition to the busy clinics in PHC centers of MOH. This obstacle supports the personal experience of Anu Mehra who found menopausal counseling lasting for one hour was more effective with promising outcomes [27]. Other barriers reported in this study were lack of staff, cultural beliefs, and unavailability and fear of prescribing medications. The least factor admitted by the physician was poor patient adherence which might indicate the good doctor-patient relationship among PHC physicians. Other studies revealed suboptimal knowledge and training, patient safety, language, and poor patient adherence as additional obstacles when dealing with menopausal women [11, 25, 26].

Conclusion

This study concluded low knowledge about perimenopausal counseling among PHC physicians in Eastern Province of Saudi Arabia especially in HRT and mental health related questions. The

main deficiency observed in the counseling practice was HRT prescription while the most reasons for prescription or referral among physicians who practice were vasomotor and osteoporosis management. Lack of experiences and time were the main barriers identified to interfere with perimenopausal counseling.

Recommendations

Findings of this study emphasize the need to train PHC physicians regarding perimenopausal counseling and encourage them to practice it. Establishing menopausal management national protocol customized to PHC setting will be very helpful. Additionally, providing menopause clinics with its specialized staff can help to overcome time and manpower obstacles with more patient satisfaction. Further researches are needed to study perimenopausal counseling with its different problems and more studies are required to examine more associations in menopausal counseling.

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