Health Information-Seeking Behavior of Menopausal Women: An Online Survey of Iranian Menopausal Women

Abstract

Background: Understanding the health information behavior of menopausal women can be effective on their health awareness and improving self-care and preventive health practices. This study aimed to gain deeper insights into the health information-seeking behavior of Iranian menopausal women. Materials and Methods: This descriptive-analytical cross-sectional study was conducted in 2023. Data were collected over 2 months, from June 15 to August 15, 2023. The participants were Iranian women aged 50 years and older at the time of the survey. An online questionnaire was developed and distributed through social media to assess the health information-seeking behavior of menopausal women. A total of 4,608 women, selected through cluster sampling, completed the questionnaire. The data were analyzed using SPSS-23 software using the Chi-square test. Results: The primary information needs of women during menopause were related to cancer, other diseases, and diagnostic methods. In addition, social networks and friends were the most commonly used information sources among menopausal women. The main barriers to accessing information were the lack of knowledge about information sources, difficulties in obtaining accurate and reliable information, and insufficient information across various sources. Conclusions: The findings of this study indicated that women required various types of information, particularly regarding cancers, clinical symptoms of menopause, and nonhormonal treatments. Given the increasing use of social networks, training can be conducted through these platforms and further efforts are necessary to provide more reliable and comprehensive information via these media.

Keywords: Information sources, menopause, needs assessment, women

Introduction

Menopause is confirmed by the absence for 12 of menstruation consecutive without months other underlying causes.[1] Worldwide, there is minimal formal education regarding menopause,[2] and most women's related informational needs are often overlooked.[3] Consequently, menopausal women experience various therapeutic, psychological, and challenges, including confusion, frustration, depression, anxiety, disappointment, and lifestyle changes.^[4,5] Research indicates that understanding and addressing these informational needs can facilitate symptom management and promote a healthier life.[2,6]

information-seeking refers to the targeted actions of individuals aimed at satisfying their health information needs, encompassing the processes of searching, finding, and using health-related information.^[7,8] Recently, in the light of

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growing international focus on health

promotion, self-care, and improving the

quality of life, research in the area of health

information-seeking behavior has gained

significant importance.[9] In this context,

it was found that the most sought-after

information by menopausal women pertained

study highlighted the need for health

information regarding urinary incontinence

women.[10] Several studies underscored the

informational requirements of menopausal

women considering hormone replacement

therapy.^[11] In addition, other research

require nutritional and health information to

maintain a healthy lifestyle.[12,13] However,

research shows that the provision of

empowers postmenopausal women in the

and

postmenopausal

management

treatments.[8]

that postmenopausal women

qualified information

strategies,

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process of self-care.[14] It has been shown How to cite this article: Latifi M, Alishan Karami N, This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License. which allows others to remix, tweak, and build upon the work

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previously that the preferred sources of information are mainly divided into two categories: personal and media.[15] The results of many studies revealed that personal sources of information, such as doctors, are the primary means of communication with menopausal women for the effective transfer of information, considering as the reliable and valid sources.[16] The Internet, in other studies, has been one of the main sources of information due to its ease of access, and it encourages doctors to use online information sources; the least used sources were radio and newspapers that reported as preferred sources of information by family and peer groups of experienced menopause.[17,18] In line with the search for information, some studies have shown that individuals encounter various barriers while seeking health information, which complicates the acquisition of the necessary information.^[19] In one study, the place of residence identified as a significant inhibiting factor, as rural women had access to less information.^[20] Other studies have noted the unavailability of information sources, the lack of necessary information services, and the ignorance of health information service providers regarding the preferences of postmenopausal women for required information.^[21] According to the World Health Organization's policy on understanding the information needs of postmenopausal women, accessing qualified information related to their needs, and removing cultural and social barriers that affect the quality of women's health,[22] this study was conducted with the aims of identification of health information needs of menopausal women and used health information sources as well as barriers to accessing health information to gain deeper insights into their health information-seeking behavior.

Materials and Methods

This quantitative descriptive—analytical study is an applied work that began in June 2023 and concluded in August 2023. According to Cochran's table (95% CI, SD 0.5, and a margin of error of 5%), and using a nonrandom multistage cluster method, the sample size was determined to be 4,608 individuals.

The share of each cluster was chosen according to the number of women in each province, so the share of East Azerbaijan province was 35%, Sistan and Baluchistan province was 25%, Kurdistan province was 15%, Lorestan province was 15%, and Yazd province was 10%. The researchers made every effort to select participants with maximum variation (age, marital status, educational status, occupation, religion, and ethnicity). Table 1 summarizes the demographic characteristics of the participants. Owing to the diversity of Azeri, Turkmen, Lurs, Kurds, Baluch, and Fars ethnic groups, to ensure coherence and maximize participation from different ethnic groups, the first stage involved dividing all provinces of Iran into five geographical regions: North, South, East, West, and Center. In the second stage, from each geographical region, the capital of the province and one city were selected based on ethnicity:

Table 1: Demographic Characteristics of Study Participants (n=4608)

Variable	Groups	n (%)
Age	50-56	2531 (50.92)
	>57	2077 (45.07)
Marital status	Single	589 (12.77)
	Married	2254 (48.91)
	Widowed	997 (21.63)
	Divorced	768 (16.66)
Highest	Lower Diploma	581 (12.60)
educational	Diploma	657 (14.25)
qualification	Academic	3370 (73.13)
Field of work	Employee	1963 (42.59)
	Housewife	(43.55) 2007
	Freelance job	638 (13.84)
Ethnicity	Fars	1253 (27.19)
	Azeri	836 (18.14)
	Lurs	687 (14.90)
	Kurds	697 (15.12)
	Baluch	573 (12.43)
	Mixed ethnic background	305 (6.61)
	Any other ethnic group	157 (3.40)
Religion	Muslim	3809 (87.80)
	Non-Muslims	756 (16.40)
	Prefer not to say	43 (0.93)
Period after	Less than one year	243 (5.27)
menopause	Between one and two years	654 (14.19)
	Between third and four years	1054 (22.87)
	Four more years	2657 (57.66)

Ethnicity is a characterization of people based on having a shared culture (e.g., language, food, music, dress, values, and beliefs) related to common ancestry and shared history. In this research, the participants were grouped according to ethnicity into Fars, Azeri, Lurs, Kurd, Baluch, Mixed ethnic background and Any other ethnic group ethnic groups

- 1. Yazd (Yazd city is the capital of Yazd province, while Ardakan is one of its cities).
- 2. Kurdistan (Sanandaj city is the capital of Kurdistan province, and Saqqez is one of its cities).
- 3. East Azerbaijan (Tabriz city is the capital of East Azerbaijan province, with Azarshahr being one of its cities).
- 4. Lorestan (Khorramabad city is the capital of Lorestan province, and Borujard is one of its cities).
- Sistan and Baluchistan (Zahedan city is the capital of Sistan and Baluchistan province, and Chabahar is one of its cities).

Inclusion criteria

Inclusion criteria were Iranian nationality, women aged 50 years and older and menopause, and residents of one of the selected provinces.

Exclusion criteria

Exclusion criteria were non-Iranian nationality, women under 50 years old, and those who not resident in the selected cities.

Tools

The questionnaire consists of four parts:

1-Experiences, Attitudes, Knowledge, and Education: This section investigates women's experiences and attitudes towards menopause.

2-Information Sources: This part identifies the sources women use to obtain information about menopause, featuring 15 items.

3-Information Needs: This section assesses the information needs of menopausal women, encompassing 42 items across six categories:

- 3-1-Cancers (three items)
- 3-2-Other Diseases (three items)
- 3-3-Menopause Symptoms (20 items)
- 3-4-Health Care Counseling (three items)
- 3-5-Diagnostic Methods (four items)
- 3-6-Treatments (eight items)
- 4-Barriers to Seeking Information: This section addresses barriers women face when seeking information about menopause, consisting of seven items.

Responses were measured on a 5-point Likert scale, ranging from 5 (very high) to 1 (not at all). Participants were also invited to provide any additional information through an open-ended question at the end of the questionnaire.

This researcher-developed questionnaire was created with input from four obstetricians and gynecologists, three PhD holders in public health (with a family orientation), and insights gained from cognitive interviews with eight menopausal women. To assess content validity, the questionnaire was reviewed by five obstetricians and gynecologists, as well as five family health specialists, yielding a Content Validity Ratio (CVR) of 0.74. According to the reference table, the acceptable CVR for ten specialists was estimated to be 0.62.[22] To evaluate the clarity of the questions, the questionnaire was distributed to eight members of the research community who did not participate in the study phases. Each question was reviewed for clarity and comprehension, leading to necessary corrections, and the CVI was found to be 0.78. A questionnaire was administered to 30 target group members (final sample) to assess face validity. After the target group completed the questionnaire, a face validity of 0.83 was calculated using the impact of the item method, according to the following formula: Impact of items = Frequency (%) \times Importance.

Instrument reliability, assessed using Cronbach's alpha, was determined for "Information Sources," "Information Needs," and "Barriers to Seeking Information," yielding $\alpha=0.874,~\alpha=0.836,~$ and $\alpha=0.798,~$ respectively. The online questionnaire was distributed via social media platforms (WhatsApp and Telegram) and internal networks (Eitaa and Bale), with women encouraged to share it with other friends and acquaintances who

were menopausal after completing the questionnaire. To ensure that all participants were from the selected provinces and cities and at the age of 50 years and older and menopause, the first question relied on self-reporting. Those who were not resident in the target provinces and cities or not belonged to the specified age group were excluded.

Data analysis was conducted using the SPSS Statistics software package, version 23. The normality of the data was evaluated using the Kolmogorov–Smirnov test. Data were analyzed at two levels: descriptive statistics (frequency distribution) and inferential statistics (Chi-square test). The significance level was set at $p \le 0.005$.

Ethical considerations

Since all participants voluntarily took part in this study, they were exempt from written consent. However, to conduct the research, ethical approval from the committee of Hormozgan University of Medical Sciences was obtained. Before completing the questionnaire, the title and objectives of the study were clearly explained. This article is derived from health information research project titled "Information Seeking Behaviour of Menopausal Women: An Online Survey of Iranian Menopausal Women," with ethics code of IR.HUMS.REC.2023.347, approval number of 4020326, and approval date of May 11, 2023, from the Ethics Committee of Hormozgan University of Medical Sciences.

Results

The findings indicated that over 73% of the participating women held university degrees, and more than half of them were employed. Additional information is presented in Table 1.

The results indicated that only 14.16% of women anticipated menopause positively, while the majority (32.87%) accepted it, and 25.32% expressed fear regarding menopause. The results of Table 2 indicated that 80.81% of women did not receive any training in school or university, while 6.59% received minimal information. Over 66% of the women reported that they were unaware of perimenopause and menopause stages before the age of 50. Women were asked when they believed menopause should be taught. Most of them suggested that teaching about menopause should be in school (44.42%),28.32% at the university and 12.55% through the doctors. The women were also asked if they began searching for information and when they did so. Most participants (73.48%) sought information because the symptoms onset, while only 7.76% looked for information before it.

Regarding menopause symptoms 86.52% of the women said that they have had symptoms since menopause onset, and hot flushes, low sexual desire and vaginal dryness were among the most important postmenopausal symptoms [Figure 1].

As presented in Table 3, the majority of women (27.76%) sought information about menopause from social networks,

Table 2: Women's feelings about perimenopause/ menopause, Taught and Know level about menopause, time to receive training and Time of look for information about menopause

about menopause				
Variable	Answer	n (%)		
How do you	Looking forward to it	654 (14.19)		
feel about	Accepting of it	1515 (32.87)		
menopause?	Neutral (no strong view either way)	787 (17.07)		
	Afraid	1167 (25.32)		
	Not sure	485 (10.52)		
Have you been	Not at all	3978 (80.81)		
taught about	Some basic information	192 (4.16)		
menopause	Very detailed information	304 (5.59)		
at school or university?	Not sure	134 (2.90)		
How much did	Very informed	202 (4.38)		
you know about	Some knowledge	995 (21.59)		
perimenopause/	Not informed at all	3067 (66.55)		
menopause before age 50?	Not sure	344 (7.46)		
When do	School	2047 (44.42)		
you think	University	1305 (28.32)		
menopause	Doctors	579 (12.55)		
should be taught?	Apps such as period and fertility apps	204 (4.42)		
	Health specialists and health care workers)	473 (10.28)		
When did	As my symptoms stated	3386 (73.48)		
you look for information?	Along time after my symptoms stated	648 (14.06)		
	Before I had symptoms	358 (7.76)		
	I had not looked for any information yet	216 (4.64)		

while 22.46% turned to friends. Educational films and TV programs, along with printed sources such as books, magazines, newspapers, and podcasts, were the least utilized. A significant relationship was found between age group and the pursuit of information from friends, relatives, family, social networks, and health professionals (p<0.005). In addition, positive, direct and a significant relationship was noted between marital status and the search for information from friends, relatives, family, social networks, and health professionals, as well as between educational status and information seeking from friends, relatives, family, social networks, and health professionals (p<0.005).

Women were asked about their most important information needs during menopause, and the results indicated that these needs primarily concerned cancer, other diseases, and diagnostic methods [Table 4]. The information needs of women aged 50-56 years across all categories (except counseling) were greater than those of 57 years and older (p < 0.005). In addition, the need for information in all categories (excluding counseling) was significantly higher among widowed women compared with married, single, and divorced women (p < 0.005). Furthermore, divorced and unmarried women sought more information regarding gynecological cancer, menopausal symptoms, and treatment (p < 0.05). Women with academic degrees required more information across all categories compared with those without academic degrees [Tables 4 and 5].

The results in Table 6 indicated that the most significant barriers of seeking information about menopause were the lack of awareness regarding information sources, difficulties in accessing accurate information, and contradictory across various information sources. A notable relation was identified between age groups and three

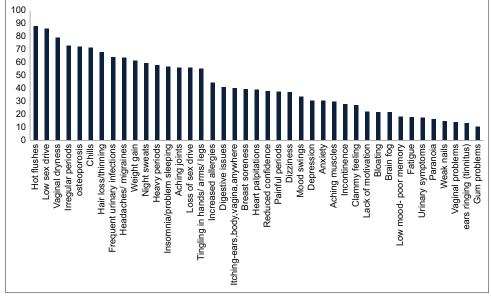


Figure 1: Symptoms of menopause

Table 3: The frequency of	sources used to acquire i	nformation about menopause

	Information Sources	n (%)	p		
			Educational status	Marital status	Age group
What sources	Friend	1035 (22.46)	0.001	0.013	< 0.001
specifically did you	Family or Relatives	654 (14.19)	0.005	< 0.001	0.004
look for information	Official web sites such as the menopause society	564 (12.23)	0.051	0.023	0.073
about menopause?	social media (YouTube, Telegram, Instagram, what's app,)		0.000	0.002	< 0.001
	health professionals (Doctors- Nurse)	1284 (27.76)	0.001	0.006	0.009
	Books	939 (20.37)	0.077	0.063	0.125
	Podcasts		0.256	0.613	0.124
	Films and TV programs	12 (0.26)	0.086	0.215	0.140
	Magazines	31 (0.67)	0.321	0.365	0.145
	Newspapers	72 (1.56)	0.165	0.516	0.067

^{*}Correlation at the level of <0.005 is significant

specific challenges: inconsistencies in information from different sources, limited access to information, and menopause symptoms (p < 0.005). In addition, a significant correlation was found between marital status and the lack of knowledge about information sources, insufficient time to search for information, as well as educational status and the perception of inadequate information and limited access to resources (p < 0.005).

Discussion

The aim of this study was to identify the health information-seeking behavior of menopausal women, including their information needs, sources and the barriers encountered during the search. The study revealed that women over 50 years of age do not have a positive attitude towards menopause and tend to accept it passively when it occurs. Similarly, it was observed that women over 40 years old expressed anxiety about menopause onset.[1] In addition, the results indicated that more than 80% of menopausal women had not received any related education, and over 66% were unaware of premenopausal and menopausal stages before the age of 45. Most of them sought information only after experiencing menopause symptoms. This clearly demonstrates a lack of proactive interest in menopause among middle-aged women, as they did not seek information before the onset of symptoms. Similar studies also corroborate these findings.^[4,7] According to our study, three-quarters of menopausal women believe that the best time to learn about menopause is at school and university. Therefore, it is essential to develop educational strategies that are timely and appropriately focused on improving menopause education at a younger age and ultimately increase knowledge among future generations. Another part of the results indicated that most participants sought information on breast cancer, hot flashes, cervical cancer, nonhormonal treatments, joint and muscle pain, mammography and bone density test. This finding aligns with a study of middle-aged women in Singapore concluding that gynecological cancers, joint and muscle pain, bone health, and breast cancer screening were the most frequently chosen topics.^[26] Breast cancer is the most prevalent cancer among women globally, including in Iran.[27] Postmenopausal hormone replacement therapy is a known risk factor for breast cancer while hormonal therapies effectively address menopausal symptoms. Many women hesitate to use hormone therapy due to potential side effects and its limited application in certain cancers. They tend to prefer nonhormonal treatments.[28-31] This underscores the necessity of providing information about breast cancer and nonhormonal menopause treatments. Cervical cancer was another area of interest for the participants in this study. It predominantly affects Iranian postmenopausal women at the ages aged 55 to 65 years with the incidence rate of 2.5 per 100,000 women, resulting in a mortality-to-incidence ratio of 42%.[30] These statistics along with the findings of the present study, highlight the importance of disseminating adequate information about cervical cancer and its risk factors to reduce the prevalence. Participants also frequently reported hot flashes and joint and muscle pain as the two most common symptoms experienced by Iranian menopausal women. Although sexual problems are considered one of the issues that arise during menopause,[31] the results showed that information related to sexual issues is less searched by Iranian menopausal women. In Iran's socio-cultural context, seeking information about sexual issues may be less common due to the shame or taboo associated with these topics serving as a barrier for women seeking health information.[27] However, sexual problems increase with age and estrogen levels decrease during menopause, which can affect Iranian women's life satisfaction.[32] although the sexual issues are not mentioned in these researches. The results of our study showed that the most common barriers women faced to retrieve the related information about menopausal symptoms were contradictory information from different sources, insufficient time to search information, lack of adequate information, uncertainty about the sources,

Table 4: The frequency of "yes" responses to information items that women may need to know about menopause

Information Needs n (%) Women's cancers 3964 (86.02) Breast cancer 3345 (72.59) Cervical cancer Ovarian cancer 2299 (49.89) Diseases Colon cancer 644 (13.97) Uterine fibroid 2950 (64.01) Uterine prolapse 3014 (65.40) Menopause symptoms Hot flashes 3620 (78.55) Night sweats 964 (20.92) Sleep pattern changes 1987 (43.12) Depression 2897 (62.86) Anxiety 1286 (27.90) Decreased concentration 1724 (37.41) Urinary problems 657 (14.25) Skin problems 678 (14.71) Hair and nail problems 961 (20.85) Sexual problems for women 954 (20.74) Blood pressure 917 (19.90) Diabetes 756 (16.47) Obesity 615 (13.34) Cardiovascular problems 257 (5.57) Bone problems 354 (7.68) Joint and muscle ache 2387 (51/80) Consultations Consultation about exercise 956 (20.74) Consultation about dietary 1981 (42.99) Consultation about maintaining a healthy weight 1671 (36.26) Diagnosis methods 2987 (64.82) Sonography Mammography 3017 (65.47) Bone Mineral Densitometry 3156 (68.48) Laboratory tests 1567 (34.00) Treatments A variety of treatments to reduce menopausal 1256 (27.25) symptoms Nonhormonal therapies to reduce menopausal 3587 (77.84) symptoms Hormonal therapies to reduce the symptoms of 687 (14.90) menopause Complementary therapies (traditional medicine, 3025 (65.64) acupuncture) Medicinal supplements (calcium tablets, ...) 654 (14.19) Side effects of treatments 1254 (27.21) Cost of treatment 965 (20.94) Duration of treatment 802 (17.40)

difficulties in accessing information correctly and limited access to information (library, internet, etc.). According to the study by Barber and Charles, barriers to seeking help for menopausal symptoms were the lack of knowledge about the full range of symptoms, stigma, embarrassment

Table 5: The Negative binominal regression model to compare the differences between the mean numbers of information needed items

in	information needed items					
	Mean±S.D	Regression coefficient* (95%	p			
		confidence interval)	<u> </u>			
Women's cancers						
Age group						
50-56	3.17(1.86)	Reference	Reference			
>57	2.83(1.61)	1.03 (1.09,1.51)	0.003			
Marital status						
Married	2.77(1.25)	Reference	Reference			
Single	3.10(1.28)	1.22 (0.97,1.92)	0.027			
Divorced	3.14(1.25)	1.13 (0.91,1.66)	0.119			
Widow	3.20(1.45)	1.25 (1.07,1.63)	0.039			
Educational status						
low diploma	1.87(1.41)	Reference	Reference			
Diploma	2.13(1.66)	1.12 (0.91,1.39)	0.110			
Academic	2.25(1.55)	1.30 (1.07,1.59)	0.030			
Diseases						
Age group						
50-56	2.75(1.48)	Reference	Reference			
>57	2.02(1.71)	1.56 (0.99,1.33)	0.002			
Marital status						
Married	1.57(1.12)	Reference	Reference			
Single	1.70(1.04)	1.08 (0.77,1.51)	0.241			
Divorced	2.28(0.77)	1.45 (1.25,1.69)	< 0.001			
Widow	2.06(1.30)	1.31 (1.03,1.67)	0.026			
Educational status						
low diploma	1.72(1.36)	Reference	Reference			
Diploma	1.94(1.74)	1.07 (0.87,1.31)	0.073			
Academic	2.10(1.63)	1.22 (0.99,1.49)	0.024			
Menopause	,					
symptoms						
Age group						
50-56	4.43(2.15)	Reference	Reference			
>57	3.96(1.49)	1.26 (1.09,1.47)	0.003			
Marital status	,					
Married	4.76(3.31)	Reference	Reference			
Single	3.13(2.22)	1.04 (0.71,1.52)	0.711			
Divorced	4.50(3.76)	1.42 (1.17,1.72)	< 0.001			
Widow	4.74(3.28)	1.45 (1.17,1.80)	0.012			
Educational status	, (((0)		****			
low diploma	3.24(2.78)	Reference	Reference			
Diploma	2.52(2.43)	0.93 (0.75,1.14)	0.581			
Academic	4.31(3.50)	1.20 (0.99,1.45)	0.036			
Consultations	1.31(3.30)	1.20 (0.55,1.15)	0.050			
Age group						
50-56	2 77(1 80)	Reference	Reference			
>57	2.77(1.80) 1.98(1.86)	1.11 (0.93,1.32)	0.116			
Marital status	1.90(1.00)	1.11 (0.95,1.52)	0.110			
Married	2 64(1 22)	Dafanar	Dafans			
	2.64(1.32)	Reference	Reference			
Single	1.59(0.91)	1.07 (0.76,1.39)	0.001			
Divorced	2.08(1.49)	1.37 (0.75,1.69)	0.201			
Widow	2.14(1.87)	1.36 (0.94,1.80)	0.013			

Contd...

Table 5: Contd				
	Mean(SD)	Regression coefficient* (95% confidence interval)	p	
Education				
low diploma	1.58(1.56)	Reference	Reference	
Diploma	2.69(1.66)	1.06 (0.72,1.38)	0.716	
Academic	2.55(1.99)	1.55 (1.26,1.94)	< 0.001	
Diagnosis methods				
Age group				
50-56	3.15(1.72)	Reference	Reference	
>57	2.69(2.22)	1.39 (1.11,1.69)	0.002	
Marital status				
Married	2.12(1.47)	Reference	Reference	
Single	1.27(1.36)	1.08 (0.77,1.50)	0.756	
Divorced	2.18(1.40)	1.31 (1.08,1.58)	0.002	
Widow	1.67(1.60)	1.26 (1.01,1.57)	0.031	
Education				
Low diploma	2.31(1.76)	Reference	Reference	
Diploma	2.06(1.54)	0.79 (0.52,1.09)	0.211	
Academic	3.10(2.00)	1.18 (1.14,1.57)	< 0.001	
Treatments				
Age group				
50-56	4.32(3.79)	Reference	Reference	
>57	5.28(3.87)	1.27 (1.04,1.54)	0.021	
Marital status				
Married	3.75(2.88)	Reference	Reference	
Single	4.15(2.31)	1.17 (1.06,1.78)	0.126	
Divorced	5.22(2.85)	1.30 (1.12,1.64)	0.105	
Widow	5.15(3.39)	1.07 (1.07,1.79)	0.006	
Education				
Low diploma	3.41(3.62)	Reference	Reference	
Diploma	4.28(3.54)	0.19 (0.69,1.24)	0.753	
Academic	5.11(4.02)	1.28 (1.04,1.37)	0.018	

and the belief that it is a normal part of ageing. Previous negative experience in accessing advice or treatment have discouraged women from pursuing help. There are significant differences in beliefs and attitudes towards the menopause amongst GPs and often accompanied by a lack of confidence in prescribing HRT. Consequently, secondary care services can become overwhelmed by a surge in uncomplicated referrals that could be effectively managed in primary care. [33]

The most common used sources of information were social networks and friends. Therefore, the influence of media richness (updated health information, sharing, low cost, availability, ease of use and online interactions) in social network should not be overlook. The results of Latifi *et al.*'s^[21] study also showed that, from the users' point of view, the currency of health information, sharing and accessibility have been effective in the value of social networks and the rate of attracting users. Sharing information with friends can help to provide reliable, inexpensive and fast information allow to have common

experiences and reduce worries about menopause symptoms and problems. [20,21] Nevertheless, an important challenge in finding information relates to lack of knowledge about reliable information sources, uncertainty in accessing reliable information, contradictory information in different sources, and limited access to information. [23-25] Since the doctor is one of the important methods in measuring the credibility of information, [21] therefore this highlights the necessity for doctors and health care providers to educate women about menopause and increase women's knowledge about this important stage.[34] More than half of the participants in our study rated their level of knowledge about menopause as "low". This result was consistent with previous studies indicating that most women had little to moderate knowledge about menopause. [35] The present study also found that women with university degrees possess greater knowledge and show more interest in seeking information about menopause. A study on Jordanian women's knowledge about menopause showed similar results.[36] It is likely that women with a university degree are generally more informed and motivated to seek reliable information about menopause, as their educational background equips them with enhanced research skills. One limitation of the current research was potential for repeated user responses. The researchers attempted to address this limitation by utilizing software capabilities to ensure that each user could participate in the survey only once.

Conclusion

The findings of this study indicated that women seek a variety of information, especially regarding cancers, clinical symptoms of menopause, and nonhormonal treatments. However, they encounter challenges such as limited knowledge about information sources, difficulty accessing correct and reliable information, and encountering contradictory information across different sources. Given the use of social networks by postmenopausal women, it is essential to conduct training through these platforms. Increased efforts should be made to provide them with access to more reliable and comprehensive information via these channels.

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Conflicts of interest

Nothing to declare.

Table 6: The frequency of challenges in searching information about menopausegroups				
Challenge	n (%)	p		
		Age group	Marital status	Educational status
Information from different sources is contradictory	1761 (38.21)	0.002	0.114	0.671
I do not have enough time to search information	763 (16.55)	0.130	0.000	0.733
I do not find enough information	1269 (27.53)	0.823	0.124	< 0.001
I do not know the sources of information	2561 (55.57)	0.918	< 0.001	0.129
I do not know how to access information correctly	1956 (42.44)	0.716	0.687	0.579
I have limited access to information (library, internet, etc.)	1587 (34.44)	0.003	0.133	0.001
Menopausal symptoms prevent the search for information (Decreased	1136 (24.65)	< 0.001	0.826	0.769

memory or concentration, lack of energy, mood swings, etc.)
*Correlation at the level of <0.005 is significant. Chi-square test

References

- Harper JC, Phillips S, Biswakarma R, Yasmin E, Saridogan E, Radhakrishnan S, et al. An online survey of perimenopausal women to determine their attitudes and knowledge of the menopause. Women's Health 2022;18:17455057221106890.
- Dehghan M, Isari Z, Abbaszadeh MH, Ghonchehpour A. Menopause symptoms in women and its relation with using complementary and alternative medicines: A survey in southeast Iran. Front Public Health 2022;10:947061.
- Ilankoon I, Samarasinghe K, Elgán C. Menopause is a natural stage of aging: A qualitative study. BMC Women's Health 2021;21:1-9.
- 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;20:1-10.
- Jalambadani Z, Garmaroodi G, Yaseri M, Tavousi M, Jafarian K. Education based on theory of planned behavior over sexual function of menopausal women in Iran. J Midlife Health 2017;8:124.
- Koyuncu T, Unsal A, Arslantas D. Evaluation of the effectiveness of health education on menopause symptoms and knowledge and attitude in terms of menopause. J Epidemiol Glob Health 2018;8:8.
- Munn C, Vaughan L, Talaulikar V, Davies MC, Harper JC. Menopause knowledge and education in women under 40: Results from an online survey. Womens Health 2022;18:17455057221139660.
- Pinkerton JV. Hormone therapy for postmenopausal women. N Engl J Med. 2020;382:446-55.
- Kołodyńska G, Zalewski M, Rożek-Piechura K. Urinary incontinence in postmenopausal women–causes, symptoms, treatment. Prz Menopauzalny 2019;18:46–50.
- El Khoudary SR, Greendale G, Crawford SL, Avis NE, Brooks MM, Thurston RC, et al. The menopause transition and women's health at midlife: A progress report from the Study of Women's Health Across the Nation (SWAN). Menopause (New York, NY) 2019;26:1213.
- Hajesmaeel-Gohari S, Shafiei E, Ghasemi F, Bahaadinbeigy K. A study on women's health information needs in menopausal age. BMC Womens Health 2021;21:1-9.
- Zimmerman MS, Shaw G Jr. Health information seeking behaviour: A concept analysis. Health Info Libr J 2020;37:173-91.
- Pang PC-I, Chang S, Pearce J, Verspoor K. Online health information seeking behaviour: Understanding different search approaches 2014. PACIS 2014 Proceedings. 229. Available from: https://aisel.aisnet.org/pacis2014/229.

- Trudeau KJ, Ainscough JL, Trant M, Starker J, Cousineau TM. Identifying the educational needs of menopausal women: A feasibility study. Womens Health Issues 2011;21:145-52.
- Latifi M, Allahbakhshian L, Eini F, Karami NA, Al-Suqri MN. Health information needs of couples undergoing assisted reproductive techniques. Iran J Nurs Midwifery Res 2022;27:522.
- Yaacob LH, Abdul Mokti S, Muhammad J. Health seeking behaviour of menopausal women with urinary incontinence in North east Malaysia. J Women Aging 2020;32:537-45.
- Cilgin H. Predictors of initiating hormone replacement therapy in postmenopausal women: A cross-sectional study. Sci World J 2019;2019;1814804.
- Rathnayake N, Alwis G, Lenora J, Lekamwasam S. Impact of health-promoting lifestyle education intervention on health-promoting behaviors and health status of postmenopausal women: A quasi-experimental study from Sri Lanka. Biomed Res Int 2019;2019:4060426.
- Rathnayake N, Alwis G, Lenora J, Mampitiya I, Lekamwasam S. Effect of health-promoting lifestyle modification education on knowledge, attitude, and quality of life of postmenopausal women. Biomed Res Int 2020;2020:3572903.
- de Arruda Amaral ICG, Baccaro LF, Lui-Filho JF, Osis MJD, Pedro AO, Costa-Paiva L. Opinions and main sources of information about menopause among middle-aged Brazilian women. Menopause 2019;26:1154-9.
- Latifi M, Tehrani HG, Karami NA, Barahmand N, Farsani LA.
 Using information sources by breast cancer women treated with mastectomy. J Educ Health Promot 2019;8:68.
- Romero Jeldres M, Díaz Costa E, Faouzi Nadim T. A review of Lawshe's method for calculating content validity in the social sciences. Front Educ 2023;8:1271335.
- Macpherson BE, Quinton ND. Menopause and healthcare professional education: A scoping review. Maturitas 2022;166:89-95.
- Aleksova J, Kuczynska-Burggraf M, Ranasinha S, Vincent A. Information on early menopause: Is the internet the place to search?. Climacteric 2017;20:248-55.
- Tan SS, Goonawardene N. Internet health information seeking and the patient-physician relationship: A systematic review. J Med Int Res 2017;19:e9.
- Wong JLJ, Thu WPP, Lim CW, Wang YL, Yong EL, Logan SJS. Health information needs of 1000 midlife Singaporean women. Climacteric 2020;23:511–8.
- Latifi M, Sedaghat M, Barahmand N, Fahimnia F, Farsani LA.
 Qualitative study of health information-seeking barriers among mastectomy patients. Asian Pac J Cancer Prev 2020;21:3185.
- Alshogran OY, Mahmoud FM, Alkhatatbeh MJ. Knowledge and awareness toward menopause and hormone therapy among premenopausal women in Jordan. Climacteric 2021;24:171-8.

- Ansari A, Fahimfar N, Noruzi A, Fahimifar S, Hajivalizadeh F, Ostovar A, et al. Health information–seeking behavior and self-care in women with osteoporosis: A qualitative study. Arch Osteoporos 2021;16:78.
- Farhood B, Geraily G, Alizadeh A. Incidence and mortality of various cancers in iran and compare to other countries: A review article. Iran J Public Health 2018;47:309–16.
- 31. Woyka J. Consensus statement for non-hormonal-based treatments for menopausal symptoms. Post Reprod Health 2017;23:71–5.
- 32. AziziKia H, Didar H, Teymourzadeh A, Nakhostin-Ansari A, Jafari Doudaran P, Farasati Far B, *et al.* Uterine and cervical cancer in Iran: An epidemiologic analysis of the Iranian National population-based cancer registry. Arch Iran Med 2023;26:1-7.
- 33. Barber K, Charles A. Barriers to accessing effective treatment and support for menopausal symptoms: A qualitative study capturing the behaviours, beliefs and experiences of key stakeholders. Patient Prefer Adherence 2023;2971-80.
- Duzgun AA, Kok G, Sahin S, Guvenc G. Assessment of depression and sexual quality of life in postmenopausal women. Perspect Psychiatr Care 2022;58:2029-36.
- Liss J, Pettigrew J, Santoro N. Type and age of menopause: Potential implications for female sexual health. J Sex Med 2023;20:921-4.
- Nazarpour S, Simbar M, Ramezani Tehrani F, Alavi Majd H. Factors associated with quality of life of postmenopausal women living in Iran. BMC Womens Health 2020;20:1-9.