ORIGINAL

Coping with Menopausal Symptoms among Japanese Teachers : Associations with Symptom Severity and Knowledge

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Abstract : Menopausal symptoms can significantly affect the performance of working women. The association between knowledge of symptoms, educational level and better coping with the symptoms has been found. However, no study has been performed about coping with menopausal symptoms among school teachers who have higher educational background in Japan. This cross-sectional study explored coping strategies used by female teachers experiencing menopausal symptoms and the factors influencing their healthcare-seeking behaviors. Data were collected via a self-administered questionnaire between December 5, 2022 and February 28, 2023. Participants included 278 female teachers aged 45–60 years working in public elementary and junior high schools, of whom 156 (56.1%) reported menopausal symptoms. More than 80% of those with symptoms used at least one coping strategy : gathering information (68.6%), self-coping (60.9%), seeking advice (57.1%), and medical consultation (26.3%). Higher somatic menopausal symptom scores were associated with seeking medical consultation or advice. A significant correlation was observed between symptom severity and number of coping strategies used. Additionally, prior knowledge of menopause significantly increased the likelihood of information gathering and self-coping. Our findings underscore the need for support systems that help teachers cope with menopausal symptoms effectively, such as improving access to care and providing educational opportunities about menopause. J. Med. Invest. 72 : 85-92, February, 2025

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INTRODUCTION

Menopausal symptoms have been reported to adversely affect working women impacting work performance (1) including presenteeism (2), contributing to intentions to stop working (3). Therefore, effective coping strategies for these symptoms are crucial. Strategies for coping with menopausal symptoms may vary across countries. Women mostly gather information on menopausal issues using the Internet, including social media (1, 4) and websites (1, 5-7), as information source. In five European countries, including France, Germany, Italy, Spain, and the United Kingdom (UK), 54% of symptomatic women aged >45 years sought either medical input or treatment, with approximately 75% consulting a physician (8). In China, 25.97% of women aged 40–60 years with menopausal symptoms sought healthcare (9). In Japan, a study conducted by the Japanese Ministry of Health, Labor, and Welfare on menopausal disorders and symptoms found that over 40% of women in their 40–50s who experienced menopausal symptoms did nothing to alleviate them. Additionally, about 80% of women in their 40–50s who experienced menopausal symptoms had not sought medical consultation (10), suggesting that a significant number of women with menopausal disorders neither address their symptoms nor consult medical professionals. Among nurses and general workers who experienced menopausal symptoms, 24.2% and 26.3%, respectively, sought hospital care, while 49.3% and 42%, respectively, relied solely on self-care measures, such as lifestyle improvements and appropriate exercise (11). However, there are few studies about satisfaction on coping strategies in Japan.

Studies have shown that coping with menopausal symptoms is influenced by factors, such as knowledge of symptoms. In Iran, women aged 48–55 years with academic degrees had more knowledge and interest in obtaining information about menopause (12). A study in Saudi Arabia found that among women aged 35–50 years, educational level was associated with perimenopause-related knowledge, with postgraduates scoring the highest, followed by those with a bachelor's degree (4). Women with university education coped significantly better with hot flashes and night sweats than women with primary education (13).

Surveys on menopausal symptoms and coping methods among school teachers are limited. A survey using the menopause rating scale showed that the prevalence of menopausal symptoms was 93.5% in school teachers aged 40–60 years in India, 64.8% of them were high school teachers, and 31.8% of the respondents sought healthcare services for their menopausal symptoms ; age, type of organization, and health insurance had a significant association with the health-seeking behavior of the participants (14). In Japan, the number of public school teachers taking leave or resigning due to mental health issues is high (15), and Japanese teachers work the longest hours among Organisation for Economic Co-operation and Development (OECD) countries (16), which could contribute to difficulties in seeking medical attention, even when experiencing poor health. Additionally, school teachers may have good knowledge of menopausal symptoms because they are professionals with academic degrees. However, there are few studies on menopausal symptoms and coping strategies used by school teachers in Japan. Therefore, we focused on school teachers as a job type.

In most studies, women were evaluated by various menopausal symptom scales and assessed as having symptoms if they had >1 symptom. Many women have little awareness that the wide array of symptoms they may be experiencing is related to perimenopause, or that they can manifest in a biological,

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psychological, or social context (7). Therefore, perception of menopausal symptoms is important. Moreover, most studies on menopausal symptoms and coping strategies have been conducted using cross-sectional studies, which mixed women who are either recognized as currently having symptoms or had them in the past. Therefore, we focused on participants according to their symptom status to get as close to reality as possible.

This study aimed to explore school teachers' coping strategies and methods for their menopausal symptoms as well as their satisfaction with the coping strategies they have implemented. Additionally, the association between coping strategies and specific symptom experiences and knowledge of menopausal symptoms was explored. For teachers who do not perceive their symptoms as menopausal, this study examined their knowledge of menopausal symptoms and expectations for coping in the future. Through this study, the current state of coping with menopausal symptoms will be clarified, and the necessary support measures for teachers to achieve satisfactory coping strategies will be considered.

MATERIALS AND METHODS

Participants

Female teachers working in public elementary and junior high schools, representing compulsory education levels in Japan, were recruited for this survey. The target age range was between 45–60 years, reflecting the median age of menopause in Japanese women, which is 52.1 years (17).

Regarding sample size estimation, a statistical power analysis was performed using G*Power 3.1.9.7. The necessary sample size was determined by coefficient=0.05, power=0.80 and medium effect size 0.3 or 0.5, then correlation coefficient (N=84) and t-test (N=128) and were necessary for analysis in this study. We invited 2,410 teachers—five from each of 482 selected schools (322 elementary schools and 160 junior high schools), based on a 2 : 1 ratio of teachers to schools in Japan (18), using systematic sampling from a nationwide school list (19).

Measurements

The authors designed a questionnaire to obtain data on how female teachers cope with menopausal symptoms, their level of satisfaction with different strategies, and their knowledge and perceptions of menopause. It consists of the following sections :

Demographic Information

This section collects data on age, menstrual status, age at menopause, and work-related details, including school type and job position.

Menopausal Experiences

The participants were asked whether they had experienced menopausal symptoms (experiencers) or not (non-experiencers). Experiencers were asked whether their symptoms were still present (active group) or resolved (resolved group).

Coping Strategies for Menopausal Symptoms

Experiencers were asked to select all coping strategies they applied among four options : medical consultation, gathering information, seeking advice, and self-coping, and all specific coping methods for each area ; treatment including hormone replacement therapy (HRT), herbal medicine, and counseling, information resources, including mass media (television, radio, newspapers, and magazines) and the Internet, advice sources, including family (mother, sister, and husband), friends, co-workers, and doctor/pharmacist, and self-coping, including exercise, diet, sleep/rest, supplement intake, over-the-counter medications, chiropractic, massage, etc., and changing mood. For those who did not apply any strategy, those who did not seek medical consultation, or those who discontinued their medical consultation, the reasons for this choice were also queried. Additionally, experiencers rated their level of satisfaction with each coping strategy, indicating how effective or useful they found them. Satisfaction levels were categorized as very satisfied, satisfied, somewhat satisfied, or dissatisfied.

Measurement of Menopausal Symptoms

Current menopausal symptoms in the active group experiencers were assessed using the Greene Climacteric Scale (GCS) (20). This scale includes 21 items categorized into four domains : psychological (11 items), somatic (7 items), vasomotor (2 items), and sexual (1 item). Each symptom was rated on a four-point scale between 0 (not at all) and 3 (extremely). The internal consistency of the GCS in this study was assessed using Cronbach's alpha coefficient, which yielded a value of 0.865.

Knowledge and Attitude on Assessment of Menopausal Symptoms

Experiencers were asked to report what they know about menopause and menopausal symptoms including content, treatment, self-coping, and place of consultation prior to experiencing symptoms.

Non-experiencers were asked about their perceived knowledge level and how much they know about menopausal symptoms, and the answers were selected from not at all, some, quite, and very much. Moreover, they were asked what topics they wanted about menopausal symptoms, including contents, treatment, self-coping method, and place of consultation prior to having symptoms, as well as their attitude regarding menopausal symptoms and required coping methods, including information sources, consultant, and the self-coping method in the future after starting the symptoms.

Survey Procedure

We sent the questionnaire and obtained a study cooperation agreement from the school principals. Ethical documents, including voluntary participation and anonymity, were distributed to targeted participants. The participants could choose either a paper-based or web-based survey on the SurveyMonkey site by accessing the URL and QR codes (https://jp.surveymonkey.com/). The participants checked the informed consent box on the first page of the questionnaire or the "Agree" checkbox on the web form. Completed questionnaires were sent back to the researcher. The approval for this study was obtained from the Tokushima University Hospital Research Ethics Committee for Life Sciences and Medicine (No. 4258-1).

Data Collection

This cross-sectional study was conducted using a self-administered questionnaire, with data collected between December 5, 2022 and February 28, 2023. Questionnaires were distributed to 482 schools (2,410 teachers), resulting in 147 responses via the web and 243 responses by mail for 390 responses. After excluding 10 responses from non-teaching staff, 1 without consent, 10 with missing information on menopausal symptoms, 85 outside the age range of 45–60 years, and 6 with missing values about experiencing the symptom, 112 responses were removed. This left 278 responses for the analysis.

Statistical Analysis

Descriptive statistics were used to analyze categorized variables, expressed as numbers with percentages, means with standard deviations (SDs), or medians with 25th and 75th

percentiles. The Fisher's exact test was used to analyze the relationship between knowledge of menopausal symptoms prior to experiencing symptoms and the use of various coping strategies among experiencers. In the active group, the Mann–Whitney U test was used to compare the GCS total score and sub-factor scores between the two groups based on the use of different coping strategies, and the Spearman's correlation test was used to analyze the associations between the GCS total score and sub-factor scores and number of coping strategies used. Data analysis was performed using SPSS Statistics version 28.0 for Windows (IBM Corp., Armonk, NY, USA), with a two-sided significance level set at 5%.

RESULTS

Participants' Background

As shown in Table 1, 156 (56.1%) of the participants had experienced symptoms (experiencers) and 122 (43.9%) were non-experiencers. Of the 156 experiencers, 117 (75.0%) were still experiencing symptoms (active group), and 39 (25.0%) had their symptoms resolved (resolved group). All experiencers in the resolved group were postmenopausal and older. The regular menstrual cycle rate was higher among non-experiencers. There were no significant differences in the school type (p=1.00) or job position (p=0.34) between experiencers and non- experiencers group.

Experiencers of Menopausal Symptoms
Proportion of Coping Strategies Used

Table 2 presents the data on coping strategies for menopausal symptoms. Over 80% of the participants employed at least one of the four coping strategies ; gathering information (68.6%) was the most common, followed by self-coping, seeking advice, and medical consultation. The common reasons for not having any coping strategies were : 'I can bear it' (79.3%), 'I do not have time because I am busy at work' (37.9%), and 'I want to let it go naturally' (27.6%). Similarly, the common reasons for not seeking medical consultation were : 'I can bear it' (92.2%), 'I want to let it go naturally' (35.7%), and 'I do not have time because I am busy at work' (33.0%).

Specific Coping Methods for Menopausal Symptoms and Satisfaction

As shown in Table 3, among the treatments received, herbal medicine was the most commonly used (14.1%), followed by HRT and counseling, each at approximately 7%. Regarding treatment satisfaction, HRT was the most satisfactory (63.6%). 32.7% internet users and 19.7% mass media users were satisfied, although the Internet was at 62.8% and mass media was at 39.1% as information sources used. Regarding advice sources, friends were the most common (36.5%), followed by family and co-workers. The proportion of doctors or pharmacists was lower than that of others. More than 40% of those who got advice from friends, doctors, pharmacists, and family members said that they were satisfied. Regarding self-coping methods, the most common practice was obtaining sufficient sleep and rest (41.7%), and the method with the highest satisfaction was changing mood (54.5%).

Knowledge of Menopause and Its Relationship to Coping Strategies

A total of 87.6% of the experiencers reported that they knew about menopause before experiencing symptoms. Specifically, the knowledge they had included understanding the content of menopausal symptoms (73.2%), what menopause is (68.6%), coping methods for menopausal symptoms (22.2%), treatments for menopausal symptoms (17.6%), and resources for seeking advice on menopausal symptoms (5.9%).

As shown in Table 4, the experiencers who knew about "what menopause is" before experiencing symptoms were significantly more likely to gather information (p=0.033). Those who knew about "coping methods for menopausal symptoms" before experiencing symptoms were significantly more likely to use self-coping strategies (p<0.001) . Except those, there was no relationship between other categories of knowledge of menopausal symptoms and coping strategies.

Relationship Between the Severity of Menopausal Symptoms and Coping Strategies

In the active group, a significant difference was observed in somatic symptoms based on whether they sought medical consultation or advice. Higher scores for somatic symptoms were associated with a greater likelihood of seeking medical consultation or seeking advice (Table 5). Similarly, a weak correlation was found between somatic symptoms and the number of coping strategies used, with a significant correlation coefficient (rs=0.260, p<0.01).

Perceived Knowledge and Attitude about Menopausal Symptoms among Non-Experiencers

Among 122 participants who had never experienced

Table 1. Participants' Characteristics and Menopausal Symptoms' Status

		Experiencers						Non-experiencers	
		Total (N = 156)		Active group (N = 117)		Resolved group (N = 39)		Total (N = 122)	
		N	%	N	%	N	%	N	%
Age : mean (SD) years old		53.3	(3.9)	52.3	(3.6)	56.0	(3.4)	52.1	4.7
Menstrual cycle	Regular	22	14.1	22	18.8	0	0	45	36.9
	Irregular	29	18.6	29	24.8	0	0	16	13.1
	Postmenopausal	105	67.3	66	56.4	39	100.0	61	50.0
Age of menopause : mean (SD) years old		50.5	(3.8)	50.4	(3.9)	50.7	(3.8)	49.8	(4.2)
School type	Elementary school	108	69.2	78	66.7	30	76.9	85	69.7
	Junior high school	48	30.8	39	33.3	9	23.1	37	30.3
Job position	Management position	24	15.4	19	16.2	5	12.8	25	20.5
	Other teachers	132	84.6	98	83.8	34	87.2	97	79.5

SD, standard deviation

menopausal symptoms, 7.6% were very knowledgeable about menopause, 25.2% were quite knowledgeable, and 67.2% had some knowledge. All participants reported some level of understanding of menopause. As shown in Table 6, the sought-after information about menopause included self-coping methods for menopausal symptoms and treatment options. The internet (73.8%) was the preferred source of information over mass media. When considering whom to consult if symptoms worsened, 59.0% preferred to consult doctors, and 52.5% preferred medical consultation when the symptoms occurred.

DISCUSSION

We found that 81.4% of teachers with menopausal symptoms used at least one coping strategy, such as gathering information, self-coping, seeking advice, or seeking medical consultation. Compared to a survey that reported that approximately 41% of symptomatic Japanese women in their 40–50s did not use self-coping methods for menopausal symptoms (10), it seems that more teachers were likely to use self-coping strategies. In contrast, we showed that 18.6% of the teachers did not use any method, and the main reason was that they could bear it. Additionally, 37.9% of teachers mentioned that "I do not have time because I am busy at work" implying that working conditions, and the situation seemed to distort the use of any strategy.

Overall, although many teachers in the current study used various coping strategies, the rate of medical consultations was 26.3%. In Japan, 24.2% of nurses and 26.3% of general workers visit hospitals for menopausal symptoms (11). In five European countries, 54% of symptomatic women aged >45 years sought either medical input or treatment for their symptoms, with approximately 75% consulting a physician (8). In China, 26% of women aged 40–60 years with menopausal symptoms sought healthcare (9). This may reflect a broader cultural tendency towards non-intervention in menopausal management. The low percentage of women seeking medical consultation was also explained by a reason similar to the lack of coping strategies. Huang (6) reported that in the UK, 43.5% of women aged 35–70 years who did not seek advice from healthcare professionals (HCPs) cited

Table 2. Coping strategies for menopausal symptoms

		Total (N = 156)		Active group (N = 117)		Resolved group (N = 39)	
		N	%	N	%	N	%
Coping strategies applied	Applied at least one strategy	127	81.4	94	80.3	33	84.6
Coping strategy category (Multiple answers)	medical consultation	41	26.3	31	26.5	10	25.6
	gathering information	107	68.6	81	69.2	26	66.7
	seeking advice	89	57.1	65	55.6	24	61.5
	self-coping	95	60.9	75	64.1	20	51.3
	Applied all FOUR strategies	34	21.8	27	23.1	7	17.9
	Applied THREE strategies	34	21.8	26	22.2	8	20.5
	Applied TWO strategies	37	23.7	26	22.2	11	28.2
	Applied ONE strategy	22	14.1	15	12.8	7	17.9
	NOT applied any	29	18.6	23	19.7	6	15.4
Why NOT applied any strategy (Multiple answers)		29	100	23	100	6	100
	I can bear it	23	79.3	18	78.3	5	83.3
Percentage per total number of participants NOT applying any strategy	I do not know what to do	3	10.3	3	13.0	0	0.0
	I want to let it go naturally	8	27.6	5	21.7	3	50.0
	I do not have time because I am busy at work	11	37.9	9	39.1	2	33.3
Reasons for not medical consultation (Multiple answers)		115		86		29	
	I can bear it	106	92.2	79	91.9	27	93.1
	I'm not sure it will improve	11	9.6	8	9.3	3	10.3
Percentage per total number of participants NOT medical consultation	I want to let it go naturally	41	35.7	27	31.4	14	48.3
	I do not feel like medical consultation	4	3.5	4	4.7	0	0.0
	I do not have time because I am busy at work	38	33.0	32	37.2	6	20.7
	Reluctance to see a gynecologist	5	4.3	5	5.8	0	0.0
	I did not think it was a menopausal symptom	3	2.6	2	2.3	1	3.4
Medical consultation status of whom used to see a doctor	Ongoing	13	32.5	11	36.7	2	20.0
	Discontinued	27	67.5	19	63.3	8	80.0
Reasons for discontinuity (multiple answers)	Symptoms reduced	24	88.9	16	84.2	8	100.0
Percentage per total number of participants discontinued medical consultation	I did not feel treatment effect	3	11.1	2	10.5	1	12.5
	I do not have time because I am busy at work	3	11.1	3	15.8	0	0
	Economic reasons	2	7.4	2	10.5	0	0

Table 3. Specific Coping Methods for Menopausal Symptoms and Satisfaction

		Total (N = 156)		Satisfaction					
				Satisfied*		Somewhat satisfied		Unsatisfied	
		N	%	N	%	N	%	N	%
Medical consultation YES/NO	**YES**	**41**	**26.3**	**16**	**39.0**	**21**	**51.2**	**4**	**9.8**
Treatment received	Hormone replacement therapy (HRT)	11	7.1	7	63.6	3	27.3	1	9.1
	Herbal medicine	22	14.1	8	36.4	13	59.1	1	4.5
	Counseling	12	7.7	4	33.3	5	41.7	3	25.0
Gathering information YES/NO	**YES**	**107**	**68.6**	**21**	**19.8**	**78**	**73.6**	**7**	**6.6**
Information source	Mass media	61	39.1	12	19.7	44	72.1	5	8.2
	Internet	98	62.8	32	32.7	61	62.2	5	5.1
Seeking advice YES/NO	**YES**	**89**	**57.1**	**31**	**34.8**	**57**	**64.0**	**1**	**1.1**
Consultant	Family	54	34.6	23	42.6	29	53.7	2	3.7
	Friends	57	36.5	25	43.9	32	56.1	0	0.0
	Co-workers	51	32.7	16	31.4	33	64.7	2	3.9
	Doctor/Pharmacist	44	28.2	19	43.2	21	47.7	4	9.1
Self-coping YES/NO	**YES**	**95**	**60.9**	**21**	**23.1**	**62**	**68.1**	**8**	**8.8**
Self-coping methods	Exercise	52	33.3	24	46.2	26	50.0	2	3.8
	Diet	37	23.7	10	27.0	25	67.6	2	5.4
	Sleep/Rest	65	41.7	26	40.0	38	58.5	1	1.5
	Supplement intake	46	29.5	12	26.1	25	54.3	9	19.6
	Over-the-counter medications	25	16.0	5	20.0	13	52.0	7	28.0
	Chiropractic, massage etc.	46	29.5	24	52.2	17	37.0	5	10.9
	Changing mood	55	35.3	30	54.5	24	43.6	1	1.8

*Total of "Very satisfied" and "Satisfied".

Table 4. Relationship between knowledge of menopausal symptoms prior to experiencing symptoms and the use of various coping strategies among experiencers (N = 156)

		Medical consultation					Gathering information					Seeking advice					Self-coping				
		Yes		No		*p*-value	Yes		No		*p*-value	Yes		No		*p*-value	Yes		No		*p*-value
		N	%	N	%		N	%	N	%		N	%	N	%		N	%	N	%	
What is menopause	Know	32	31	73	69.5	0.078	79	76.7	24	23.3	0.033	64	62.1	39	37.9	0.371	70	68.0	33	32.0	0.071
	Don't Know	8	16.7	40	83.3		28	58.3	20	41.7		25	53.2	22	46.8		25	52.1	23	47.9	
Menopausal symptoms	Know	27	24.1	85	75.9	0.407	80	72.7	30	27.3	0.426	64	58.7	45	41.3	0.854	71	64.5	39	35.5	0.571
	Don't Know	13	31.7	28	68.3		27	65.9	14	34.1		25	61.0	16	39.0		24	58.5	17	41.5	
Treatment of menopausal symptoms	Know	10	37.0	17	63.0	0.226	22	81.5	5	18.5	0.244	19	70.4	8	29.6	0.279	21	77.8	6	22.2	0.084
	Don't Know	30	23.8	96	76.2		85	68.5	39	31.5		70	56.9	53	43.1		74	59.7	50	40.3	
Menopausal symptoms consultation person	Know	3	33.3	6	66.7	0.698	7	77.8	2	22.2	1.000	5	55.6	4	44.4	1.000	7	77.8	2	22.2	0.486
	Don't Know	37	25.7	107	74.3		100	70.4	42	29.6		84	59.6	57	40.4		88	62.0	54	38.0	
How to deal with menopausal symptoms yourself	Know	10	29.4	24	70.6	0.660	29	85.3	5	14.7	0.052	22	66.7	11	33.3	0.423	30	88.2	4	11.8	<0.001
	Don't Know	30	25.2	89	74.8		78	66.7	39	33.3		67	57.3	50	42.7		65	55.6	52	44.4	

Fisher's exact test was used for the analysis.

Table 5. Relationship between GCS total score, sub-score, and the presence of coping behavior in the active group (N = 117)

	Psychological symptoms			Somatic symptoms			Vasomotor symptoms			Sexual symptoms			Total menopausal symptoms		
	Median	(25th, 75th)	*p*-value	Median	(25th, 75th)	*p*-value	Median	(25th, 75th)	*p*-value	Median	(25th, 75th)	*p*-value	Median	(25th, 75th)	*p*-value
Medical consultation YES	11.0	(6.0, 13.0)	0.434	5.0	(4.0, 6.0)	0.004	1.0	(0.0, 2.0)	0.695	1.0	(0.0, 2.0)	0.091	17.0	(12.0, 20.0)	0.203
NO	8.0	(4.0, 13.5)		3.0	(2.0, 5.0)		2.0	(0.0, 2.0)		1.0	(1.0, 2.0)		15.0	(9.0, 20.5)	
Gathering information YES	9.0	(6.0, 13.0)	0.984	4.0	(2.0, 6.0)	0.259	1.0	(0.0, 2.0)	0.700	1.0	(1.0, 2.0)	0.074	16.0	(10.0, 20.5)	0.885
NO	10.0	(4.0, 14.0)		3.0	(2.0, 5.3)		2.0	(0.0, 2.0)		1.0	(1.0, 2.0)		15.5	(10.0, 20.5)	
Seeking advice YES	10.0	(6.0, 12.0)	0.993	4.0	(3.0, 6.0)	0.018	1.0	(0.0, 2.0)	0.766	1.0	(1.0, 2.0)	0.333	16.0	(10.0, 19.3)	0.715
NO	8.5	(4.0, 14.0)		3.0	(2.0, 5.0)		1.0	(0.0, 2.0)		1.0	(1.0, 2.0)		15.0	(9.0, 21.0)	
Self-coping YES	10.0	(4.0, 13.0)	0.712	4.0	(2.0, 6.0)	0.189	1.0	(0.0, 2.0)	0.822	1.0	(1.0, 2.0)	0.121	16.0	(10.0, 20.0)	0.825
NO	9.0	(5.5, 14.5)		3.0	(2.0, 5.0)		1.0	(0.0, 2.0)		1.0	(1.0, 2.0)		15.0	(10.0, 21.0)	

25th and 75th represent 25th and 75th percentiles. The Mann–Whitney U test was used for the analysis.

Table 6. Perceived knowledge and attitude toward menopausal symptoms among non-experiencers (N = 122)

Questions		N	%
What you need to know about menopausal symptoms	What is menopause?	16	13.1
	Menopausal symptoms	38	31.1
	Treatment of menopausal symptoms	45	36.9
	Menopausal symptoms consultation person	17	13.9
	How to deal with menopausal symptoms yourself	57	46.7
Preferred source of information about menopausal symptoms	Mass media (television, radio, newspapers, magazines, etc.)	73	59.8
	Internet	90	73.8
People who want to discuss menopausal symptoms	Doctor at medical institutions	72	59.0
	Pharmacist at a drug store	7	5.7
	Mother/Sisters	48	39.3
	Husband/Partner	44	36.1
	Friends and acquaintances	63	51.6
	Co-workers	29	23.8
What to do when menopausal symptoms appear	I do not know yet	29	23.8
	See a doctor at medical institution	64	52.5
	Purchase supplements and over-the-counter medicines at drug stores, etc.	24	19.7
	Self-care : What you can do yourself	61	50.0
	Do nothing and see what happens naturally	25	20.5

that their symptoms were manageable on their own or not severe enough to warrant HCP support ; the main barrier for this was the perception that menopause was not a valid reason to seek help. Additionally, 52.4% felt that menopause was not a valid reason to seek medical advice. A previous study among Japanese women in their 40–50s cited the lack of time and difficulty taking time off work as reasons for not visiting medical facilities at 2.5–4.5% (10), and the rate of time management problems was much higher in teachers (>30%). As Japanese teachers work the longest hours among OECD countries (16), it may be difficult for them to visit medical professionals for consultation. This suggests a cultural tendency in both the UK and Japan to minimize the need for medical consultations for menopausal symptoms, potentially exacerbated by work-related constraints. This study highlights the need for systems that support teachers in managing menopausal symptoms. Creating opportunities for medical consultation without requiring time off work, such as establishing dedicated counseling services, could help address these barriers and improve access to care. This underscores the need for systems that support women in effectively managing their menopausal symptoms, particularly given the challenges faced by working women, including teachers.

In the current study, among those who sought medical treatment for menopausal symptoms, 14.1% used herbal medicine, followed by HRT and counseling in approximately 7% each. In contrast, 39.0% of the teachers reported satisfaction with medical consultations. Of these, HRT had the highest satisfaction rate (63.6%), while herbal medicine had a satisfaction rate of 36.4%. In European countries, only 9–19% of symptomatic women receive prescription for hormonal therapy (8). It was reported that only 10.0% of full-time workers in Japan had received HRT (21), and the proportion of HRT users during a 10-year period among

Japanese nurses was 8.5% (22). The prevalence of HRT use among teachers was similarly low. However, despite the small number of participants receiving HRT, the high satisfaction level suggests its potential effectiveness, although its limited use may contribute to a lack of awareness regarding its benefits. The current study suggests that limited exposure to medical treatment options, such as HRT, may contribute to a general lack of awareness of its benefits among Japanese teachers. Japanese teachers may be afraid of the adverse effects of HRT and prefer herbal medicines. This may be due to the low rate of medical consultations and limited dissemination of positive information regarding the treatment options for HRT. Addressing these gaps by increasing awareness and accessibility of effective treatments could enhance the management of menopausal symptoms.

Previous studies have shown that using social media (1, 4) or websites (1, 5-7) is now the most common source of information on menopausal issues. Another study (12) highlighted that women often face challenges in accessing menopause-related information, primarily due to difficulties in identifying reliable sources and accessing correct information, and it was also found that 38% of women struggled with knowing how to access information correctly, while 36% were unaware of reliable sources. Women with academic degrees are better informed and more interested in obtaining reliable menopausal information because of their ability to find trustworthy sources (12). Despite having an academic degree, the Japanese teachers in this study demonstrated a low level of satisfaction with gathering information, including from the Internet. This may indicate a gap in the effectiveness of the information sources on which they relied, suggesting that their attempts to gather information did not fully meet their needs. To address these issues, policymakers and stakeholders must ensure that reliable and accurate information on menopause is readily available.

Among those seeking advice about menopausal symptoms, the most common sources were friends, family members, co-workers, and doctors or pharmacists. Satisfaction rates were >40% for advice from friends, doctors or pharmacists, and family, whereas co-workers' advice had a lower satisfaction rate (31.4%). Previous studies have demonstrated that common sources of advice about menopausal issues are friends (6, 7, 14), families (14), health professionals (5), such as general practitioners (1). A literature review noted that connecting with others is a key coping behavior for Japanese women experiencing menopausal symptoms, encompassing "sharing distress" and "connecting with dependable people" (23). Menopause is a personal topic, and teachers may prefer to share their experiences with friends who may have close relationships and similar ages, which can foster a sense of understanding. Family members also typically offer reliable support, which may contribute to higher satisfaction.

To the best of our knowledge, no study has determined the association between the severity of menopausal symptoms and coping behaviors among school teachers. We found that in the active group of experiencers, somatic symptoms on the GCS were associated with seeking medical consultation or advice, as well as with the number of coping strategies. In China, the severity and number of symptoms significantly influence women's healthcare-seeking behaviors (9). In the UK, 78.7% of women reported that the severity of their symptoms was the primary trigger for seeking advice, with hot flashes or night sweats being the most common symptoms prompting consultations with HCPs (6). Women who sought help for symptom treatment had a greater average number of symptoms than those who did not, and most women did not seek any treatment for their menopausal symptoms until symptom severity reached an extremely bothersome level (8). Teaching has been proven to be a highly stressful occupation (24). One review reported that teachers' stress is related to burnout, anxiety, and depression (25), and mental health is an important issue for school teachers in Japan (15). Additionally, high levels of perceived stress are associated with a higher frequency of illness days among public school teachers (26). However, in our survey, only somatic symptoms were associated with coping methods. Teachers are more likely to seek medical help for severe somatic symptoms, whereas mental symptoms are more likely to endure. Somatic menopausal symptoms may trigger coping strategies. For school teachers, there appears to be a greater need to address physical symptoms, while there is a tendency to endure mental symptoms without seeking help. Teachers may not identify mental symptoms as a part of menopause because of the broader discourse on mental health issues within this profession.

Only 56.1% of teachers reported that they have experienced menopausal symptoms. A previous study showed that the prevalence was 46.2% in general Japanese workers in the same age group (21), 67% in women aged >45 years in five European countries, ranging between 60% in France and 75% in the UK (8). In contrast, it was reported that the prevalence rate of perimenopausal symptoms in women aged 35–50 years in Saudi Arabia was 81.7% using a list of 20 items (4), and that the prevalence of menopausal symptoms in women aged 40–60 years in China was 73.8% using the modified Kupperman menopausal index (9). Compared to other countries, the perceived prevalence rate is low in Japan. This finding suggests a gap in recognizing and addressing mental health issues related to menopause among teachers. It is difficult to decide if some psychological symptoms are menopausal-related. There is a need to increase awareness and education regarding the full spectrum of menopausal symptoms, including mental health issues, and to improve support systems that facilitate easier access to medical consultations and treatments.

Regarding menopausal knowledge, 87.6% of experiencers reported having some knowledge of menopause before experiencing symptoms. However, no association was observed between knowledge and medical consultations. The result may be affected by the knowledge that was assessed by the teacher's perception. All teachers need to have menopausal education opportunities to employ coping methods, such as providing correct knowledge regarding menopausal symptoms, treatment and coping methods. The goal for education is not only to enhance management of symptoms but also to improve awareness of more effective treatment options and encourage proactive healthcare-seeking behaviors. This may help reduce the burden of symptoms overtime, prevent the exacerbation of symptoms, potentially improve working performance and prevent absence from work, thus maintaining both health and productivity. In the current study, only a quarter of the experiencers made contact for medical consultations, while over half of the non-experiencers preferred to receive medical consultations in the future. This gap for teachers may be attributed to time management problems due to their busy work, as well as a lack of exposure to medical consultations among their peers.

This study has several limitations. First, the sample size was relatively small, which may limit the generalizability of our findings. Additionally, the study relied on the participants' subjective reports of menopausal symptoms, which could introduce bias, particularly in recalling past symptoms. Additionally, knowledge level was assessed by the participants' perceptions, and future studies may need to clarify their knowledge levels using objective methods. Furthermore, as a cross-sectional study, it did not allow for causal inferences between the variables studied, and a response bias may have occurred, with those experiencing more severe menopausal difficulties potentially being

more likely to participate. We did not investigate the relationship between coping with symptoms and work performance including presenteeism and absenteeism. A study focused on menopausal symptoms, coping method and work performance may be needed.

CONCLUSION

This study highlights the significant impact of menopausal symptoms on female school teachers in Japan and the various coping strategies they employ. Our findings underscore the need for support systems that help teachers cope with menopausal symptoms effectively, such as improving access to care and providing educational opportunities about menopause.

CONFLICT OF INTERESTS

The author declares there is no conflict of interest.

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