

How and when do middle-aged women learn about menopause?

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Abstract

<Aim> We investigated the knowledge and image of menopause among middle aged women. <Procedures> We administrated questionnaires to 76 outpatients with climacteric disorder and 49 healthy middle-aged women. The questionnaire consisted of items on demographics, questions about the knowledge and image of menopause, and the Scale of Menopause Knowledge (SMK) which we developed. <Results> The rates of women who responded they knew menopause well were 89.3% in the patient group and 65.3% in the healthy group respectively. Patients got the knowledge more through books, doctors and health care professionals than the healthy women did. The women who got the knowledge mainly when they were under thirties were more knowledgeable than those who got it mainly when they were over forty. The scores in the former group were higher than the later group in the subscales of "decrease of estrogen" and "health issues related to the aging process" in the SMK. Regarding images of menopause, few women had positive image. <Conclusion> Health education about menopause for women in their early life stage is required to deal with menopause.

Key words : menopause, menopausal symptom, climacteric disorder, knowledge, middle-aged women

Introduction

Menopause is defined as the permanent cessation of menstruation, resulting from loss of ovarian hormone activity. The average age is 50 years old (Nakazawa, 2003). It is the process which every woman deals with. Decreasing ovarian hormone levels, especially estrogen, from pre-menopause to post-menopause causes various physical and/or psychological symp-

toms referred to "menopausal symptoms". They include hot flushes, vaginal dryness, sleep disturbance, general fatigue, depressive mood, anxiety, or irritability. The severity of menopause symptoms is varied. When a woman suffers from menopausal symptoms and her daily life is impaired due to these symptoms, it is defined as climacteric disorder. Patients with climacteric disorder are treated with hormone replace-

ment therapy (HRT), psychotropic drugs, herbal medicine, and/or psychotherapy (Miyaoaka, 2010; Japan Society of Obstetrics and Gynecology et al., 2012).

We thought having learned about menopause before women reach this stage is a way to cope with its symptoms. Women who had been informed about menopause through an educational program experienced fewer menopausal symptoms after five years compared to women who had not been intervened (Hunter et al., 1999). The study showed that health education of menopause for middle aged women helped women to deal with the emotional and practical aspect of the menopause. Senba et al., (2010) showed a positive effect of health education on menopause for women. They gave seminars about menopausal healthcare which consisted of 6 2-hour monthly seminars for 6 months. The researchers administered questionnaires about menopause, depression, and anxiety symptoms. By having a pre-and post-test, the participants' scores improved.

There have been several studies relating higher education and knowledge of menopause (Appling et al., 2000; Sajatovic et al., 2006; Costa-Paiva et al., 2011; Tasao et al., 2004). Appling et al. (2000) investigated knowledge of menopause and HRT. They found that major independent predictors of increased knowledge were having talked with a health care provider about HRT, having at least a high school

education, and being less than sixty years of age. We found high education was associated with knowledge of menopause in some studies (Sajatovic et al., 2006; Costa-Paiva et al., 2011). Our previous studies (Miyaoaka et al., 2013; Ueda et al., 2013) also revealed that participants being higher educated, having depression, having symptoms such as headache, sweat, or flush, or having experienced postpartum depression were more knowledgeable about menopause.

In this study, we investigated how and when women learn about menopause and their images of menopause. We believe these findings will be useful for the creation of a health education program about menopause for women.

Methods

1. Subjects

We distributed questionnaires to 76 outpatients with climacteric disorder who were being treated at the Institute of Women's Mental Health, Tokyo Women's Medical University and 82 healthy middle-aged women. Healthy women were recruited through university students and they were all their mothers. Fifty three out of 82 mothers responded to the questionnaires distributed. The response rate was 64.6%. We excluded 2 who reported they were currently suffering from climacteric disorders or had its history and 2 who hardly completed the questionnaires. The remaining subjects (49) were analyzed.

Their ages ranged from 40 to 59 years. They gave their written informed consent and completed the questionnaire. The ethics committee of Tokyo Women's Medical University approved the conduct of this study. This study took place from July to December in 2010.

2. Procedure

The questionnaire consisted of items on demographics, questions about menopause, and the Scale of Menopause Knowledge (SMK) which we developed.

(1) Demographic data and questions about menopause

Demographic information such as marital status, children, and smoking was obtained. We also asked information about the respondents' menstruation, knowledge and image of menopause.

(2) Scale of Menopause Knowledge (SMK)

We developed the SMK scale and confirmed its reliability and validity (Miyaoka et al., 2013). As a result of a factor analysis, we found that there were six factors in the scale, namely, "decrease of estrogen", "vascular, autonomic nervous, or psychological symptoms", "health issues related to the aging process", "urogenital, articular symptoms or others", "treatments", and "general knowledge".

(3) Statistical analysis

Statistical analysis was conducted using SPSS version 16.0. The Student *t*-test, χ^2 test, and two way analysis of variance

(two way of ANOVA) were used to compare the patient group and healthy group.

Results

We compared 76 patients with climacteric disorder and 49 healthy middle-aged women. Table 1 shows the demographic data of the two groups. The average age was higher in the patients group than in the healthy group. Their ages ranged from 40 to 59 years in the patients and from 40 to 57 in the healthy women. All healthy women were married and have children. There was no significant difference in employment between both groups. Patients received statistically higher education than the healthy women. Regarding menstruation, most patients were in their perimenopause or postmenopause. On the other hand, most healthy women were in their premenopause or perimenopause. We investigated their life styles. Smoking and exercising were the only variables statistically significant. Patients smoked less and exercised more than healthy women. There were no significant differences between drinking alcohol, taking care of diet, and taking supplements in both groups.

We asked the subjects if they knew a lot about menopause (Table 2). The rates of women who responded they knew menopause well were 89.3% in the patient group and 65.3% in the healthy group respectively. The "yes" to "no" ratio in the two groups was statistically different. More patients know more about menopause than

Table 1 Background

	Patients	Healthy Women	p value
No	76	49	
Average Age (SD)	52.0 (3.31)	48.4 (3.90)	***
Marriage			
Yes	51	49	***
No	25	0	
Children			
Yes	54	49	***
No	22	0	
Job			
Yes	47	37	ns
No	28	12	
Education			
Over college	48	21	*
Under high school	28	28	
Menstruation			
Premenopause	13	22	*
Perimenopause	28	20	
Postmenopause	26	4	
Post bilateral oophorectomy or/and hysterectomy	4	3	
Tobacco			
Yes	6	10	*
No	70	39	
Alcohol			
Yes	46	29	ns
No	30	20	
Taking care of diet			
Yes	50	26	ns
No	26	23	
Exercise			
Yes	30	10	*
No	44	39	
Supplement			
Yes	28	18	ns
No	45	31	

Age: t test, other variables: χ^2 test

SD: standard deviation, PMS: premenstrual syndrome

ns: not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

healthy women. Then we only asked subject who knew well about menopause when they had been first aware of menopause (Table 3). Most of the patients and the healthy women started to learn about

menopause over forty, especially in the patient group. A few women in both groups learned about it when they were in their teens or twenties.

Table 4 shows the ways in which are

Table 2 Do you know a lot about menopause?

	All subjects	
	Patients	Healthy Women
No	75	49
Menopause knowledge		
Yes = "know a lot" and "know reasonably well"	67 (89.3%)	32 (65.3%)
No = "don't know a lot" and "don't know"	8 (10.7%)	17 (34.7%)

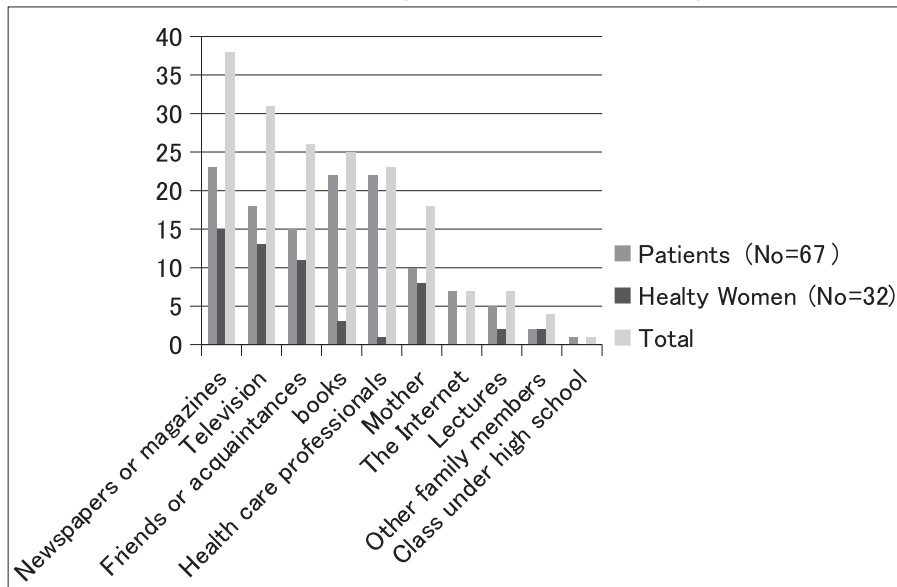
X² test, p<0.01

Table 3 When were you first aware of menopause?
Subjects : Women who think they are knowledgeable

No	Teens	Twenties	Thirties	Over Forty
Patients (66)	2	5	12	47
Healthy Women (32)	3	6	12	11
Total (98)	5	11	24	58

X² test, p<0.01

Table 4 Ways to know about menopause
Subjects : Women who think they are knowledgeable



women who answered they were knowledgeable about menopause gain this knowledge. The left bars stand for patients, the center bars for healthy women, and the right bars for the total of patients and healthy women. The graphs are shown in order of the total number of patients

and healthy women from highest to lowest. Most of the women in this graph have learned about menopause through newspapers or magazines or either through television. The patients tend to read more books and meet with health care professionals than healthy women.

We asked if knowledge of menopause was useful to women who thought they were knowledgeable about menopause (Table 5). Both the patients and healthy women think knowledge of menopause is useful in the past, in the present, and in the future.

Table 6 shows a comparison of knowledge among women who thought they were knowledgeable about menopause. We divided both groups by when they became

knowledgeable under thirties and over forty in the patient group and healthy group. Then we compared the Scale of Menopause Knowledge (SMK) which we developed (Miyaoaka et al., 2013), using a two way analysis of variance (two way ANOVA). As this scale consists of 6 subscales, we compared the total score and 6 sub scale scores amongst two groups. Except for the subscale of “vascular, muscular, or psychological symptoms”,

Table 5 Usefulness of menopause knowledge

Subjects : Women who think they are knowledgeable

	Patients	Healthy Women	p value
No	66	29	
It was useful in past			
Yes	63	26	ns
No	3	3	
It is useful now			
Yes	63	25	†
No	2	4	
It will be useful in the future			
Yes	65	28	ns
No	1	1	

X² test

ns : not significant, † p<0.1

Table 6 A coparison of knowledge among women who think they are knowledgeable about menopause : Two way ANOVA

Subjects : Women who think they are knowledgeable

the Scale of Menopause Knowledge	Patients		Healthy women		Main effect	p value
	Age when they got knowledge Under thirties	Over forty	Age when they got knowledge Under thirties	Over forty		
Total score	134.12	130.55	127.94	119.5	patients>healthy women	*
Sub scalre score						
1. Decrease of estrogen	25	23.77	23.39	18.5	patients>healthy women under thities>over forties	** *
2. Vascular, muscular or psychological symptoms	31.06	31.47	30.33	30.20		ns
3. Health issues related to the aging process	23.06	21.63	24.17	22.20	under thities>over forties	*
4. Urogenital symptoms or others	17.06	16.63	15.94	15.40		ns
5. Treatments	16.62	16.76	15.11	14.20	patients>healthy women	**
6. General knowledge	21.94	20.73	20.24	19.01	patients>healthy women	*

Two way analysis of variance (Two way ANOVA), SD : standard deviation

ns : not significant, *p<0.05, **p<0.01

Table 7 What kind of image did you have about menopause when you were in your teens or twenties?

	All subjects		
	Patients (No = 74)	Healthy Women (No = 49)	Total
A. Negative image	46	35	81
General fatigue	19	15	34
No more menstruation	11	8	19
Ugliness of a body or appearance	9	3	12
Tendency of being blues	1	3	4
Incapability of having a child	0	1	1
Decrease of value as a woman	1	0	1
Getting old age	1	0	1
B. Positive image	1	2	3
Relieve as no more menstruation	0	1	1
Getting mature as an adult	1	1	2
C. Neutral image	27	12	39

X^2 test between the patients group and the healthy women group : not significant

“healthy issue related to the aging process”, and “urogenital symptoms or others”, all scores for the patients were higher than the healthy women. “Decrease of estrogen” and “health issues related the aging process” scores were higher in the women who started to learn about menopause before their thirties.

We also researched on images about menopause among both groups (Table 7). Subjects chose two answers in multiple choices given. The most women had negative images about menopause such as “general fatigue”, “no more menstruation”, “ugliness of a body or appearance”, or “tendency of being blues”. The second most frequent image was neutral. Only 3 women responded positive images. It included “relieve as no more menstruation” and “getting mature as an adult”.

Discussion

The demographic data (Table 1) shows some characteristics of the patients and healthy middle aged women. The education level was different among two groups. The patients were highly educated than the healthy group. It may influence a finding that patients were knowledgeable about menopause. We think patients who visited the women’s medical clinic in the center of Tokyo might have received higher education than women who live in other places. The patients smoked less and exercised more than healthy women. The patients may be more conscious about their health after suffering from climacteric disorder.

More patients answered they were knowledgeable about menopause than healthy women (Table 2). Although we have to consider about the difference in

education levels among two groups, generally patients are eager to know about their diseases. Therefore, the patient group thought that they learn more about menopause than the healthy group. Actually, the former group scored more highly on the SMK (Table 6).

There were also differences on the ways to learn about menopause in both groups (Table 4). The patients learn about menopause over forty. It seemed they started to learn about menopause after they had menopause symptoms. The patients read more books and talked with health care professionals. Reading books was not an easier way than newspapers, magazines or the Internet. It showed more efforts in the patients. The patients had a lot of opportunities to meet with health care professionals. A previous study also revealed that talking a lot with professionals was a prediction in the increase of knowledge about menopause (Appling et al., 2000).

More patients feel the knowledge was useful now than the healthy women (Table 5). It seems learning about menopause is important when dealing with menopausal symptoms. Health education about menopause by health care professionals or media is required for women to reduce, deal with, or prevent menopause symptoms.

More patients started to learn menopause over forty (Table 3). They might learn after they had menopause symptoms. Most patients and healthy women were not

aware of menopause when they were young. Table 6 shows women who learn about menopause in their early life stage were knowledgeable about menopause. The scores in the former group were higher than the latter group in the subscales of “decrease of estrogen” and “health issues related to the aging process” in the SMK. These findings seem that health education for young women is important.

Table 7 shows few women had positive images about menopause when they were in teens or twenties. We think relevant health education is necessary for young women and it should include positive aspects in order to have positive image of menopause. The period of menopause is the entrance toward aging. It may make women have a negative image of menopause. Women spend a lot of their aging period because life expectancy is longer today. We think women should have more positive aspects or image about menopause and aging. If they have a positive image about menopause, their symptoms may not have such a serious impact on their lives.

Limitation

There were several methodological limitations in this study. The sample sizes of patients and healthy women were small. The patients attended only one clinic and we recruited healthy women through one university. They could not represent all patients and healthy middle aged women. As

showed as background data on table 1, there were some differences in demographic data among two groups such as age, education or marital status. These differences might influence the results. The subjects retrospectively responded the question about when and how they learn about menopause. It depended on each participant's perception.

Competing Interests

The authors declare that they have no competing interests.

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