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Material

Self-care Strategies for Menstruation-related Symptoms in Women Raising Young Children

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Abstract

This study aimed to investigate how women raising infants or toddlers deal with menstruation-related symptoms. The data were collected through anonymous self-administered questionnaires given to mothers who used seven nurseries, three child-rearing support centers, and one kindergarten for childcare from May to September 2013. An analysis of data collected from a total of 236 participants generated the following results. Coping strategies for menstruation-related symptoms consisted of three categories: "proactive approach (60.4%)," "non-proactive approach (30.3%)," and "doing nothing or endurance. (9.3%)." They consisted of five subcategories in the "proactive approach," including "oral medication," "improving blood circulation," and "taking care of nutrition," three subcategories in the "non-proactive approach," including "lifestyle adjustments" and "having my family understand," and only one subcategory in "doing nothing or endurance."

In order to cope with raising children, women must deal better with menstruation-related symptoms. It is necessary to facilitate access to oral contraceptives, to disseminate correct knowledge about menstruation, to promote men's understanding of menstruation, and to promote reproductive-aged women's use of existing systems.

1. Introduction

With the declining birthrate and aging population in Japanese society, measures to promote women's activities have recently become an urgent issue. However, according to the World Economic Forum's Global Gender Gap Report 2021[1], Japan's overall score of GGI is 0.656, ranking 120th out of 156 countries, the lowest among developed countries. Japan's scores on the categories of economy, politics, education, and health were 0.604, 0.061, 0.983, and 0.973, respectively. Therefore, it is necessary to resolve women's health issues that are influenced by politics and affect the economy to lead women to realize their full potential. Today, Japanese women experience an average of 450 menstrual periods in their lifetime[2], and it has been reported that economic losses due to menstruation-related symptoms amount to 682.8 billion yen annually[3]. The treatment of menstruation-related symptoms is crucial for improving women's quality of life.

Kawase et al. reported that menstruation-related symptoms' psychological and social impacts were significantly more substantial in women who had given birth than in women who had not given birth[4].

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According to Shimada et al., 30.8% of 172 mothers caring for infants had menstruation-related symptoms. It has also been reported that mothers with moderate menstrual symptoms felt more unwell than those with mild menstrual symptoms. Mothers with menstrual symptoms also felt that they were unable to take care of their children, received less support from their husbands, and were less satisfied with their lives[5].

An internet survey in Japan of 2,000 full-time female employees between the ages of 18 and 49 years found that, although about 50% of those women experienced menstrual abnormalities, 45% of them did nothing in particular, which was the most common answer[6]. A systematic review of self-care strategies among young women with dysmenorrhea in several countries covering lower-middle-income countries to high-income countries[7] found that rest was the most commonly used non-pharmacological strategy. In addition, several surveys in Japan regarding women's coping with menstruation-related symptoms[8-10] showed that non-proactive ways, such as resting and lying in bed, were the most common. Focusing on mothers raising young children, they may not have enough time to deal effectively with menstruation-related symptoms. It seems that, since women raising young children experience menstruation for a longer time than female students, they engage in self-care behaviors for menstruation-related symptoms. Therefore, this study aimed to investigate how those mothers cope with menstruation-related symptoms.

2. Methods

2.1 Participants and procedures

The present study focused on the results for coping strategies within an extended study using anonymous self-administered questionnaires to investigate menstruation-related changes among mothers raising infants or toddlers. The results about positive and negative changes related to menstrual periods and perceptions about menstruation were reported previously[11]. After receiving consent to conduct the study from the administrators of seven nurseries, three child-rearing support centers, and one kindergarten, self-administered questionnaires were given to the mothers who were willing to participate between May and September 2013. The questionnaire was accompanied by a document that explained the purpose, study methods, and ethical considerations. The participants voluntarily took part in and anonymously completed the questionnaire and returned it in a pre-addressed envelope to the researchers by mail. The data were handled confidentially to protect privacy.

2.2 Questionnaire

The questionnaire consisted of questions about the participants' demography and other characteristics, questions about how they cope with menstruation-related symptoms through free-description responses, and, if they answered that they had taken oral medication, questions about which medication they had taken.

2.3 Data analysis

Descriptive statistics were calculated for the quantitative variables. The free-description answers were categorized on the basis of similarities and differences of meaning. Prior to open coding, the descriptions were transcribed and reviewed several times by the current researchers to gain a general understanding of them. The descriptions were then divided into meaning units, which were abstracted and coded. The codes were compared, and a consensus was reached about the most appropriate code for each meaning unit. The codes were compared on the basis of similarities and differences, and those that implied the same meaning were assigned to one subcategory. These subcategories were subsequently sorted into categories, then quantified using frequency counts.

2.4 Ethical considerations

The cooperation of the administrators of seven nurseries, three child-rearing support centers, and one kindergarten was requested by explaining the purpose of this study orally and in writing. The aims

and methods of the study were explained to the participants in writing. They were informed that their anonymity would be guaranteed, that their participation would be of their own free will, and that refusal to consent to participate would not result in any negative consequences. Approval for this study was obtained from the institutional ethics committee of Kawasaki University of Medical Welfare, Okayama, Japan (ref. no. 382).

3. Results

3.1 Response status and characteristics of participants

This study was conducted as part of a larger study using anonymous self-administered questionnaires. The questionnaires were distributed to 807 mothers, and 375 were returned. In the 375 responses, 236 respondents answered the free-description question on coping strategies for menstruation-related symptoms. Therefore, the 236 replies were analyzed in this study.

Table 1 indicates the attributes and characteristics of the participants. The mean age of the participants was 34.3 ± 4.9 years (mean ± standard deviation [SD]; range: 20-46 years); the most frequent age group was the early 30s. Their average number of family members was 4.4 ± 1.4 (mean ± SD; range: 2-9), and their average number of children was 2.0 ± 0.8 (mean ± SD; range: 1-6). Working mothers accounted for more than 60% of respondents; 34.3% were full-time paid employees.

3.2 How to cope with menstrual symptoms

Table 2 presents the results of an analysis of descriptive data about how the participants cope with menstrual symptoms. Three categories constituting the mothers' coping strategies emerged from a content analysis of the data. In the open-coding phase, 376 codes were obtained. These codes were subsequently integrated into 17 secondary codes. They were then sorted into nine subcategories, "oral medication," "improving blood circulation," "taking care of nutrition," "taking care of hygiene, " "refreshing my mind," "lifestyle adjustments," "having my families understand my condition," "changing the way of thinking," and "doing nothing or endurance." Finally, three categories, "proactive approach" (60.4%), "non-proactive approach" (30.3%), and "doing nothing or endurance" (9.3%) were obtained.

The results of a content analysis regarding types of oral medicines are shown in Table 3. "Analgesic" was the most common medicine, accounting for 90.1% of the descriptions. "Analgesics" were mainly for headache, back pain, and abdominal pain, and they included non-steroidal anti-inflammatory drugs, antipyretic analgesics, analgesic aids, migraine medicines, and muscle relaxants. Only three participants reported using oral contraceptives.

4. Discussion

4.1 How to cope with menstruation-related symptoms

4.1.1 Proactive approach

In this study, the coping strategies implemented by the participants were extracted by inductive analysis of the free-description answers. The subcategories of the proactive coping strategies were similar to those presented in the previous studies[7,12]. Among the proactive management methods, medication was the most common, accounting for 31.4% of the descriptions. The participants of this study were adult women, mostly in their 30s, who used the medications for pain management. The results contrast with other such surveys, since many younger women are hesitant to take medication[13,14]. In Japan, the Pharmaceutical Affairs Law was amended in 2009 to curb increasing medical costs, and loxoprofen, which was previously a prescription medicine, became available over the counter. Since television commercials emphasize loxoprofen and ibuprofen as over-the-counter medicines for menstruation-related pains, some participants provided the names of these medicines.

In Japan, Chinese herbal medicine is an insured and widespread part of modern medicine. Like loxoprofen and ibuprofen, Chinese herbal medicines are available both by prescription and over the counter. In

Table 1 Demographic characteristics of the participants (*n*=236)

Characteristic	*n*	%
Age (y)	34.3 ± 4.9 (mean ± SD) (range: 20-46)	
20-24	6	2.5
25-29	37	15.7
30-34	81	34.3
35-39	75	31.8
40-44	33	14.0
45-46	4	1.7
Number of family members in the same household	4.4 ± 1.4 (mean ± SD) (range: 2-9)	
Number of children	2.0 ± 0.8 (mean ± SD) (range: 1-6)	
1	72	30.5
2	113	47.9
3 or more	51	21.5
Employment status		
Full-time paid employment	81	34.3
Part-time paid employment	61	25.8
Unemployed	94	39.8
Occupation		
Business operators	11	4.7
Sales, customer service	25	10.6
Clerical	31	13.1
Health-care workers	28	11.9
Teachers	8	3.4
Professional work other than above	20	8.5
General laborers	6	2.5
Skilled workers	2	0.8
Others	11	4.7
Do you remember the age of menarche		
Yes	223	94.5
No	13	5.5
Age of menarche (years)	12.2 ± 1.3 (mean ± SD) (range: 9-16)	
Menstrual cycle (days)	29.1 ± 3.8 (mean ± SD) (range: 20-50)	
Menstrual duration (days)	5.9 ± 1.4 (mean ± SD) (range: 2.5-10)	

n: number, SD: standard deviation

contrast to Western medicine's symptomatic treatment, Chinese herbal medicine can alleviate menstruation-related symptoms by improving blood circulation throughout the body. Whereas analgesics are expected to have an immediate effect, Chinese herbal medicine gradually improves the constitution. In this study, "Chinese herbal medicine" had only four descriptive units. It might be that some participants took both Chinese herbal medicine and Western medicine in combination.

Although oral contraceptives are effective in alleviating menstruation-related symptoms, in Japan, the percentage of women taking oral contraceptives was small, 0.9% of women of reproductive age in the United Nation's report and 1.9% of the participants of the present study. A survey of 5,728 women of

Table 2 How to cope with menstruation-related symptoms (n=376)

Category	n (%)	Subcategory	n (%)	Code	n (%)	Representative description
Proactive approach	227 (60.4)	Oral medication	118 (31.4)	Oral medication	118 (31.4)	・The headache gets worse, so I take an analgesic. ・I take Chinese herbal medicine. ・I take loxoprofen for back pain and abdominal pain. ・I take painkillers as soon as possible before the pain gets too bad.
		Improving blood circulation	35 (9.3)	Using a body warmer	26 (6.9)	・I warm my abdomen (back) with a body warmer or stomach wrap. ・I take a bath to warm up my body. ・I take a lower-body bath. ・I dress warmly.
				Massage	7 (1.9)	・I have my body massage. ・I massage my lower back with my hands.
				Clothing adjustments	2 (0.5)	・I wear loose underwear. ・I wear anti-edema socks.
		Taking care of nutrition	23 (6.1)	Eating and drinking	18 (4.9)	・I eat sweet foods. ・I eat what I want when I want. ・I eat a lot of vegetables. ・I hydrate frequently. ・I cook and eat liver.
				Nourishment	5 (1.3)	・I drink iron-containing beverages. ・I take a calcium supplement.
		Taking care of hygiene	11 (2.9)	Physical cleanliness	3 (0.7)	・I keep my body clean. ・I regularly go to the bathroom.
				Avoiding skin irritation	8 (2.1)	・I use non-irritating sanitary napkins. ・When my menstrual flow decreases, I switch to a discharge sheet. ・I avoid using a razor. ・I use non-irritating skin lotions during a period.
		Refreshing my mind	40 (10.6)	Exercise and stretching	14 (3.7)	・I stretch my body. ・I distract myself by stretching my body. ・I am always on the move during a period. ・I shake my hips (Aloha Dance).
				Going out and shopping	11 (2.9)	・I go out. ・I go shopping. ・I will go out and meet someone.
				Relax	15 (4.0)	・I watch television. ・I cry. ・I diffuse aromas. ・I take a shower. ・I chew gum.
Non-proactive approach	114 (30.3)	Lifestyle adjustments	87 (23.1)	Sleep and rest	58 (15.4)	・I sleep more than usual. ・I take a nap without straining myself. ・I lie down and rest. ・I take a rest.
				Having time for myself	6 (1.6)	・I avoid meeting people. ・I have time for myself.
				Adjusting housework and workload	23 (6.1)	・I cut corners on housework. ・I do not try too hard. ・I ask my family to help with the chores. ・I do not keep myself busy.
		Having my family understand my condition	9 (2.4)	Having my family understand my condition	9 (2.4)	・I tell my family about the condition of my body. ・I ask my children not to make me angry with them. ・I alter my children's outdoor play to home play. ・I use extended childcare services. ・I tell my family that I am menstruating.
		Changing the way of thinking	18 (4.8)	Changing the way of thinking	18 (4.8)	・I mumble in my mind to calm myself down. ・I accept that I am irritable because I am in the pre-menstrual phase. ・I try to be calm. ・I do not care about details. ・I try to think it is due to hormones. ・I do not overthink and be positive.
Doing nothing or endurance	35 (9.3)	Doing nothing or endurance	35 (9.3)	Doing nothing or endurance	35 (9.3)	・I endure the pain. ・I have to take care of my children, work and do housework, so I am getting by on physical strength! ・When I see the chores I need to do, I can't help but do them.

n: number of discriptive units

Table 3 Contents of oral medicines (n =162)

Medicine	n (%)
Analgesic	147 (90.1)
Gastrointestinal medicine	4 (2.5)
Anti-nausea medicine	2 (1.2)
Anxiolytics & sleep-inducing drugs	2 (1.2)
Chinese herbal medicines	4 (2.5)
Oral contraceptives	3 (1.9)

n: number of descriptive units

reproductive age in 12 European countries[15] showed that 89% of the women would like to reduce their menstrual frequency to less than once a month. Likewise, in another survey of 567 Japanese women of reproductive age with dysmenorrhea[16], 84.5% of participants responded that their desired frequency of menstruation was less than once a month.

Oral contraceptives can improve a woman's quality of life by reducing menstruation-related symptoms. Nevertheless, many people have a misconception about oral contraceptives, that they are only for contraception, and that they have substantial adverse side effects that are bad for the body[17]. To prevent such misunderstandings, as health professionals, we need to step up our efforts to disseminate correct knowledge regarding oral contraceptives' mechanisms and effects among people, especially in pre-conception education in schools.

In Japan, women must legally consult a doctor to obtain oral contraceptives, unlike in other countries where they can purchase oral contraceptives over the counter or receive them from nurses or midwives for free at birthing centers. In 2016 and 2018, extended cycle (a 91-day cycle and a 120-day cycle) contraceptive pills were approved and became available as treatment for hypermenorrhea in Japan. Increasing the variety and availability of contraceptive pills will increase women's options for menstrual management, which will contribute to improving their quality of life. Relevant laws and regulations should be revised to ensure that women have easy and safe access to oral contraceptives.

An intrauterine system (IUS) is a small, T-shaped plastic device with a reservoir containing progestin that is placed in the uterus by a gynecologist. It can be an option for women to alleviate heavy menstrual bleeding, as well as used for contraception. Although trained nurses are allowed to insert an IUS in some developed countries, a nurse, even a nurse-midwife, cannot do so in Japan. The laws should be amended to allow nurse-midwives to perform IUS insertion as well.

4.1.2 Doing nothing or endurance

The second most frequent subcategory was "doing nothing or endurance." Although 9.3% of the participants reported "doing nothing or endurance," the actual number might be more, since it is assumed that some of the participants did not report this, because they did not recognize it as a management strategy. These women have no one to take care of their children and their housework on their behalf, and they have to endure the menstrual symptoms. In recent years in Japan, private housekeeping and babysitting services that are easily applied for via the Internet and quickly provided have been available, especially in urban areas. Still, such private services are not as widespread as they are in other countries, because the cost is relatively high, and there is no custom of letting strangers into the home. The government has been expanding public services to support parents raising children, but further efforts are required.

4.1.3 Non-proactive approach

The second most common subcategory, "lifestyle adjustment," included "sleep and rest" as the most frequent code, which was followed by the subcategory "adjusting housework and workload." These strategies were reported in the several previous surveys concerning self-management of menstruation-related symptoms[7-10]. This might be due to the effect of progesterone in the luteal phase, which increases drowsiness. The other study[11] whose participants were the same as those of the present study found that many of them had "tiredness," "pain in the lower abdomen," and "pain in the lower back" as menstruation-related negative changes. It seems that the "sleep and rest" strategy is adopted as an effective coping strategy for these symptoms.

The other study[11] with the same participants as the present study found that the mothers had given "mental irritability" the highest score as an item among menstruation-related symptoms. In this study, the category "non-proactive approach" accounted for 30.3% of the total description units. The second most common subcategory of the category was "changing the way of thinking," which included "I mumble in my mind to calm myself down" and "I accept that I am irritable because I am in the pre-menstrual phase," as typical descriptions. From these descriptions, we can interpret that these women accept their own state of mind and somehow try to pass through the menstrual period peacefully. The subcategory "having my family understand my condition" included such descriptions as "I ask my children not to make me angry with them," "I use extended childcare services," and "I alter my children's outdoor play to home play." The mothers adopted measures to ease the burden of childcare during menstruation by gaining understanding from their families. However, several statements that do not appear in Table 2, such as "I often get angry with my children, "I scold my children even for trivial things," and "I get angry with my children and regret it," indicated that many of them were unable to maintain their mental equilibrium and regretted it. It is reported that, in the late luteal phase, the significant decrease in endogenous opioid activity can contribute to irritability, aggression, and anxiety[18]. Therefore, women themselves, as well as those around them, especially their families, should know and take this into account. According to a survey by Ishikawa and Sugiura[19], only 25% of married men talk about menstruation with their wives, and 66.7% of the participants responded they "do not know" about menstruation. The study also revealed that the respondents felt that men should have knowledge about menstruation that includes "symptoms and physical and mental changes that are likely to occur during menstruation," "practices to avoid during menstruation," and "points to keep in mind during menstruation," in that order. In a survey conducted by the Health and Global Policy Institute[20], nearly half of women reported that their work performance decreased by more than half due to menstruation-related symptoms. In recent years, there has been an increase in disseminating information about menstruation by the mass media in Japan. However, in an internet survey conducted in 2019, 39% of 312 women aged 16 years and older had trouble telling others about their menstruation, and about 87% of them replied that they could not take menstrual leave[21]. In addition, in a survey of female physiotherapists, only about 18% of them answered that they could take menstrual leave[22].

In order to realize a society in which women can play an active role, it is necessary to enhance women's quality of life by making preventive measures and treatments for menstruation-related symptoms more accessible, and for men to have knowledge about menstruation and to understand women's menstrual conditions. To achieve this goal and support women, men should be educated about menstruation as part of sex education in schools and corporate health management.

5. Conclusion

The findings of this study point to the need to acknowledge challenges for Japanese society and health care to reduce women's menstruation-related symptoms in order to achieve a society in which women can play an active role.

Limitations of the study

This study has a limitation with regard to the generalizability of results as the number of participants was small, and recruitment was conducted through convenience sampling.

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Conflict of interest

None declared.

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