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Different levels of awareness and knowledge of male climacteric in female nurses and female office workers

Ayako Kino [a], Hirokazu Uemura [b], Toshiyuki Yasui [c,*]

[a] Graduate School of Health Sciences, The University of Tokushima, Tokushima, Japan
[b] Department of Preventive Medicine, Institute of Health Biosciences, The University of Tokushima Graduate School, Tokushima, Japan
[c] Department of Reproductive Technology, Institute of Health Biosciences, The University of Tokushima Graduate School, Tokushima, Japan

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ABSTRACT

Objective: The objective of this study was to examine levels of awareness and knowledge regarding male climacteric or andropause in Japanese women. We also examined whether there are differences in these levels between nurses as a health profession group and office workers as a general population group.
Methods: Two thousand and eight hundred female registered nurses and women with office-related general occupations aged 20–65 years in Japan completed health questionnaires regarding awareness and knowledge of male climacteric, including male menopausal symptoms and treatments.
Results: The proportion in women who had heard of the term male climacteric in nurses was significantly higher than that in office workers. Nurses with past or current experience of menopausal symptoms were likely to recognize male climacteric. Nurses also had a higher level of knowledge than did office workers regarding male menopausal symptoms. High proportions of both nurses and office workers acknowledged depressed mood, irritability, nervousness and sleep problems as male menopausal symptoms. The proportions of women with sympathy for men with male climacteric were high in women with experience of past or current menopausal symptoms and in women who were close to men who suffered from menopausal symptoms.
Conclusions: Nurses with past or current experience of menopausal symptoms had high levels of awareness and knowledge of male climacteric. To spread more information and knowledge regarding male climacteric, provision of education for these nurses may be needed.

1. Introduction

Decrease in testosterone levels induces various symptoms including sexual dysfunction, cognitive impairment, decreased energy, depressed mood, increased fat mass and muscle weakness [1]. Various terms including partial androgen decline in aging males (PADAM), male climacteric, andropause and late onset hypogonadism (LOH) have been used for symptoms induced by decrease in testosterone levels [2]. According to a recently formulated definition, LOH is characterized by the presence of any of the typical signs or symptoms of LOH and a deficiency in serum testosterone levels [3].

Although terms such as male climacteric, andropause and LOH have been used in the medical science society [2,3], there is insufficient awareness and knowledge regarding these terms by the general public. It has been reported that 65–79% of the subjects in previous studies had heard of the term andropause or male climacteric [4–6]. However, it has been reported that 45.1% of men had no knowledge of andropause in Nigeria [7] and that awareness of andropause was found in only 2.2% of men in north India [8]. Levels of awareness and knowledge regarding these terms may vary among countries depending on cultural and environmental factors. In Japan, reports on andropause or LOH in the popular media have been increasing [9] and the Japanese Aging Male Questionnaire as a screening tool for LOH was developed [10]. Recently, Murai et al. reported that 56% of 50 men had heard of the term andropause or male menopause [11]. However, to the best of our knowledge, there have been very few studies of awareness and knowledge regarding male climacteric, andropause and LOH in Japan.

Awareness and knowledge regarding male climacteric, andropause and LOH may be different in men and women. It has been reported that a high proportion of women had good knowledge of andropause [11,12]. Fatusi et al. suggested that women come to terms with declining libido and sexual

* Corresponding author. Tel.: +81 88 633 9023; fax: +81 88 631 2630.
E-mail address: yasui@medsci.tokushima-u.ac.jp (T. Yasui).

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performance with age, while men are struggling with these issues [12]. The gender difference may be because women do not consider male climacteric, andropause or LOH as a strange condition since women sufficiently recognize menopausal symptoms. Although education of male climacteric, andropause or LOH for men is important, increases in the levels of awareness and knowledge for women are also needed in order to be widely recognized socially. In addition, women who have experienced menopausal symptoms may be likely to accept male climacteric.

Study to determine appropriate subjects to receive education about male climacteric is important to spread the awareness and knowledge of male climacteric in society. Health care professionals may be candidates for such subjects since they have knowledge about the physiology of men. Pommerville et al. reported that primary care physicians had high levels of awareness and knowledge about andropause [13]. It has been reported that doctors and primary care physicians agreed that men experience something similar to women's menopause [13,14]. Nurses, who have medical knowledge, are likely to have a better understanding of andropause than the general population.

Therefore, we examined the levels of awareness and knowledge regarding male climacteric or andropause in Japanese women. We also examined whether there are differences in these levels between nurses as a health profession group and office workers as a general population group.

2. Subjects and methods

This study was conducted from December in 2013 to February in 2014. We asked national, public and private hospitals in Shikoku Island in Japan whether cooperation for our research is possible in advance and invited nurses in 7 national and public hospitals and one private hospital for which cooperation could be obtained. In addition, we asked municipal offices in cities, towns and villages in Shikoku Island whether cooperation for our research is possible in advance and invited office workers in 8 municipal offices for which cooperation could be obtained. A total of 1500 female registered nurses aged 20–65 years who were working in general hospitals and 1300 females with office-related general occupations aged 20–65 years in Japan completed a health questionnaire. Participants were informed of the purposes and procedure of the study in the invitation letter.

2.1. Questionnaire

We designed a self-administered questionnaire consisting of 4 parts that took about 20 min to complete.

The first part of the questionnaire consisted of questions on age, marital status (married, single, divorced or other status) and menstrual status. Menstrual status was divided into premenopause (regular menstrual cycle during the past 12 months), perimenopause (irregular menstruation during the past 12 months) and postmenopause (no menstruation during the past 12 months).

The second part consisted of questions regarding knowledge of women's menopause, including the speculated prevalence and age of occurrence of climacteric and the causes and treatments of menopausal symptoms. We also asked the participants whether they have experienced past or current menopausal symptoms. If yes, we asked whether they had received treatment for menopausal symptoms.

The third part consisted of questions regarding awareness and knowledge of male climacteric. First, we asked whether the participants had heard of the term "male climacteric". If yes, we asked about (1) the source, (2) knowledge of male climacteric, including the speculated prevalence and age of occurrence of male climacteric and the causes of male menopausal symptoms, (3) knowledge of individual male menopausal symptoms and (4) treatment options for men with male menopausal symptoms. The Aging Males' Symptoms Scale (AMS) was used for assessment of male menopausal symptoms [15,16]. The AMS scale was originally developed and validated in Germany in 1999 and consists of 17 items of psychological, somatic and sexual symptoms. A response of "Agree", "Disagree" or "Cannot be determined" was given to the following 17 symptoms: (1) decline in feeling of general well-being, (2) joint pain and muscular ache, (3) excessive sweating, (4) sleep problems, (5) increased need for sleep, often feeling tired, (6) irritability, (7) nervousness, (8) anxiety, (9) physical exhaustion, (10) decrease in muscular strength, (11) depressive mood, (12) feeling that the man has passed his peak, (13) feeling burnt out, having hit rock-bottom, (14) decrease in beard growth, (15) decrease in ability/frequency to perform sexually, (16) decrease in the number of morning erections and (17) decrease in sexual desire/libido.

In women who had heard of male climacteric, the fourth part consisted of questions regarding the way of thinking and sympathy about male climacteric: (1) whether male menopausal symptoms should be treated and whether male climacteric symptoms influence future life, (2) what the participants recommend for men with male menopausal symptoms, (3) whether men who had suffered from male menopausal symptoms are close to you, (4) whether the participants can understand men who are suffering from male menopausal symptoms, and (5) whether the participants feel sympathy for men suffering from male menopausal symptoms.

All information was generated form self-administered yes/no responses to closed-end questions.

2.2. Ethics

The Ethics Committee of Tokushima University Hospital approved the study (number 1831).

2.3. Statistical analysis

Each categorized variable is expressed as number with percentage of proportion. Significance of differences in the levels of awareness and knowledge between nurses and office workers was evaluated by the chi-square test. With respect to the way of thinking and sympathy for men with male menopausal symptoms, we also used the chi-square test for the significance of differences in variables. All p values are two-tailed and those less than 0.05 were considered to be statistically significant. Statistical analyses for data evaluation were carried out using SPSS version 2.0 for Windows.

3. Results

3.1. Response

The overall response rate was 78.5% (2199/2800). We excluded 549 incomplete questionnaires with missing answers in the answer column. Complete entry in the answer column was determined as a valid response and the rate of valid responses was 75.0% (1650/2199). Questionnaires from 831 nurses and 819 office workers were used for analysis.

3.2. Background characteristics of the subjects

The mean ages of nurses and office workers were 43.5 and 44.8 years, respectively. As can be seen in Table 1, there were significant differences in the proportions of women in the generations and menstrual status between nurses and office workers. The proportion in women with past or current experience of menopausal