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The Prevalence of Urogenital Symptoms and Associated Risk Factors in Post-Menopausal Women of Sabzevar, Iran (2009)

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Abstract: Urogenital symptoms are among the most common complications in postmenopausal women that cause morbidity. The present study was therefore designed to determine the prevalence of urogenital symptoms in postmenopausal women and relevant risk factors in Sabzevar, Iran in 2009. This cross-sectional analytical study took place during 2008 to 2009 for 1.5 years; the sample was selected by geometric modeling and random selection of families in various zones of Sabzevar, Iran. The sample size came up to be 285 with the confidence interval of 95% to estimate the ratio of risk factors. Women over 40 years entered the study on the condition that at least one year has passed since their menopause. Questionnaires were used for collecting demographic information. For evaluation and measuring the intensity of symptoms, VAS and ICS were used. Student t-test and chi-square were used for statistical analysis. Results revealed that the mean age and weight of participants were 56.81 ± 8.13 years and 67.08 ± 12.3 kg, respectively. Mean postmenopausal period of the participants was 9.15 ± 7.85 years. Based on the statistical tests, age was significantly related with vaginal discharge and dyspareunia ($p=0.02$). Menopausal period significantly correlated with vaginal discharge ($p=0.03$) and dyspareunia ($p=0.04$). Also, age was almost significantly related with dysuria ($p=0.6$), stress incontinence ($p=0.7$); however, it showed no significant relationship with urge incontinence, frequency and nocturia. It was also observed that medial diseases significantly correlated with frequency ($p=0.001$), nocturia ($p=0.001$), stress incontinence ($p=0.001$) and urge incontinence ($p=0.02$). Parity was significantly related with dysuria ($p=0.02$), stress incontinence ($p=0.001$) and urge incontinence ($p=0.001$). Number of pregnancies significantly correlated with dysuria ($p=0.04$), stress incontinence ($p=0.001$) and urge incontinence ($p=0.05$). It was concluded that urogenital symptoms observed in the population were found to be high, a figure which was rarely reported in Iran and not reported in Sabzevar region. Symptoms appearing in postmenopausal period were depressing and may be related to several factors such as age, number of pregnancies, medical diseases, time passed since menopause.

Key words: Urogenital • Symptom • Postmenopausal Women • Risk Factors

INTRODUCTION

Urogenital symptoms are among the most common complications in postmenopausal women that cause morbidity. Although urinary and vaginal symptoms are common in postmenopausal women, few studies have focused on them [1]. These symptoms are among the common causes of medical diseases, particularly in postmenopausal period, 10% experience incontinence; before that period 50% might have such an experience. The prevalence of incontinence increases parallel with the increase in age and parity. Incontinence means

involuntary urination through urethra as the abdominal pressure goes up.

Other symptoms which are reported are frequency, urge incontinence and feeling of filled-up bladder after urination. Dysuria and hematuria are rare. Slight stress incontinence is associated with fewer physical complications, but the social and psychological consequences are considerable. The more common complications of the real stress incontinences are urinary infections, postoperative delayed urination, dyspareunia, unstable bladder and urgency frequency [2]. Urge incontinence is the second common form of incontinences

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in women and tends to become more common with age. Patients become wet after the need for urination is felt; however, in stress incontinence, there no alarming sign and the urine leaks drop by drop [3].

The problem of incontinence in five times more prevalent in women than in men and from 25 to 100% of women over 60 years of age are affected with incontinence. Although its incidence increases with age, it cannot be considered as an unimportant problem. In the United States, 13 million adults suffer from incontinence and another one million are diagnosed every year. Provision of care for these sufferers is estimated to be around 11.2 billion dollars. The most common risk factors are pelvic atony (laxation), increasing the abdominal pressure and menopause [4]. Changes of the urogenital system in menopausal period are characterized as dyspareunia, frequent dryness and infection of vagina, frequency, dysuria, nocturia and urge urination, which are signs of hypoestrogenism. Menopause is associated with a permanent pause in menstruation which occurs (6 to 12 months) after the function of ovarians is lapsed (6 to 12 months) and the mean age of its incidence is 51 [3]. Bozkurt and colleagues [1] attributed the postmenopausal urogenital symptoms to various risk factors such as age, parity, menopausal age, diabetes and hormone therapy; they also highlighted the role of smoking in predisposing the symptoms. With an effect on SHBG, smoking cigarettes can be associated with early menopause and its symptoms [5]. Zhang and colleagues [6] refer to other factors such as parity, constipation, episiotomy and higher BMI as risk factors of overactive bladder syndrome. According to the standards of the standardization subcommittee of the international continence society, incontinence is divided into various types, each with its definitions and stress incontinence is the most frequent type [7]. In Asian studies, the reason why urinary problems are on the rise is not clarified whether they are the outcome of international differences or not [8].

Bringing the risk factors into perspective can prove helpful for patients and making instructions for prevention and treatment in future. Therefore, we have investigated the relationship between urogenital disorders and factors such as social, demographic and medical characteristics which will be essential for proving their association of urogenital disorders. The prevalence of urogenital complaints among postmenopausal women and the rush of sufferers to the only gynecologic clinic of Sabzevar (Mobini Hospital) and its effect on the quality of

social and psychological life of sufferers can be moderated with the results of this study. This research can be considered as a basic step to future studies since without having statistical figures in hand, no other steps can be taken to enhance the health status and provision of care for the intended population, who basically spend one-third of their life as postmenopausal women. Therefore, the aim of the present study was determining the prevalence of urogenital symptoms in postmenopausal women and relevant risk factors in Sabzevar, Iran during 2009.

MATERIALS AND METHODS

This cross-sectional analytical study took place from 2008 to 2009 for 1.5 years; the sample was selected by geometric modeling and random selection of families in various zones of Sabzevar, Iran. The sample size came up to be 285 with the confidence interval of 95% to estimate the ratio of risk factors. Women over 40 years entered the study on the condition that at least one year has passed since their menopause. Questionnaires, focusing on personal and demographic information, were used for collecting demographic information. For evaluation and measuring the intensity of symptoms, VAS and ICS were used. Data on frequency and urgency were collected through a 0-5 scale (never, hardly, sometimes, half of the times, most of the times, almost always) (AuAs index); nocturia through a 0-5 scale, urge urination through a 0-3 scale (never, monthly, weekly and daily). The last question was that if the participant had referred to a physician or not. Content validity was used to validate the questionnaire; VAS and ICS were already validated. Tables were used for data summarization; also, Student t-test and chi-square were used for statistical analyses.

RESULTS

The mean age and weight of participants were 56.81 ± 8.13 years and 67.08 ± 12.3 kg, respectively. Also, their educational level was investigated (Table 1). Most of them were married (94.1%) and the rest were not (5.9%). Mean number of pregnancies and births were 7.24 ± 3.00 and 6.28 ± 2.52 , respectively. 106 participants suffered from cardiovascular diseases (52%). 106 participants used specific medicines. Also, 35 participants (17.2%) experienced hormone therapy. As for smoking, 11 cases smoked (5.4%) and the rest did not.

Table 1: Distribution of Participants by Educational Level

Dyspareunia	Discharge	Itching	Dryness	Variable
7.42±6.54	6.81±6.59	7.35±5.46	10.04±8.23	Yes
9.72±8.28	9.72±8.05	9.44±8.19	8.39±7.49	No
8.88±7.75	9.10±7.84	9.10±7.84	9.10±7.84	Total
0.04	0.03	0.16	0.14	P

Table 2: Mean age of participants by four variables

Educational Level	Frequency	Percentage
Illiterate	107	51.9%
Secondary school	9	4.4%
High school	15	7.3%
University	8	3.9%

Table 3: Four variables by their existence during menopause

Variable	Dryness	Itching	Discharge	Dyspareunia
Yes	57.63±8.05	55±5.46	54.27±5.85	54.81±6.18
No	56.14±8.19	57.10±8.52	57.45±8.53	57.66±8.79
Total	56.77±8.15	56.76±8.13	56.76±8.12	56.62±8.04
P	0.19	0.17	0.02	0.017

Table 4: Five variables in relation with age of the participants

Variable	Stress		Urge		Nocturia
	Dysuria	incontinence	Frequency	incontinence	
Yes	7.98±3.19	8.17±3.18	7.44±2.92	7.96±3.24	7.33±2.47
No	6.92±2.88	6.68±2.77	7.09±3.09	6.67±2.65	7.26±3.14
Total	7.23±3.0	7.21±3.00	7.24±3.02	7.25±3.00	7.29±2.91
P	0.02	0.001	0.42	0.01	0.87

Table 5: Five variables in relation with parity of the Participants

Variable	Stress		Urge		Nocturia
	Dysuria	incontinence	Frequency	incontinence	
Yes	58.57±6.31	58.22±8.44	57.31±8.22	57.59±7.73	56.92±6.65
No	56.14±8.71	56.04±7.87	56.28±8.14	55.87±8.48	57.19±8.48
Total	56.82±8.17	56.82±8.12	56.69±8.17	56.82±8.15	57.09±7.84
P	0.06	0.07	0.39	0.12	0.83

Also, 138 cases had sexual activities (63.7%) and the rest did not. Vaginal dryness was reported by 86 cases (42.2%), vaginal itching by 33 cases (16.1%), vaginal discharge by 44 cases (21.5%), dyspareunia by 72 cases (36.7%), dysuria by 57 cases (28.5%), urgency by 71 cases (36%), frequency by 81 cases (40.5%) and incontinence by 82 cases (40%). Three participants reported they woke up for urination 4 times a night.

Table 2 below shows that vaginal discharge and dyspareunia are related with the age of the participants. Based on the statistical tests, age is significantly related with vaginal discharge and dyspareunia (p=0.02). Menopausal period significantly correlated with vaginal discharge (p=0.03) and dyspareunia (p=0.04). Also, age

was almost significantly related with dysuria (p=0.6), stress incontinence (p=0.7); however, it showed no significant relationship with urge incontinence (p=0.12), frequency (p=0.39) and nocturia (p=0.83).

Table 3 indicates that menopausal years correlated with vaginal discharge and dyspareunia. Mean postmenopausal period of the participants was 9.15±7.85 years. It was also observed that medicinal diseases significantly correlate with frequency (p=0.001), nocturia (p=0.001), stress incontinence (p=0.001) and urge incontinence (p=0.02). Parity was significantly related with dysuria (p=0.02), stress incontinence (p=0.001) and urge incontinence (p=0.001). Parity significantly correlated with dysuria (p=0.04), stress incontinence (p=0.001) and urge incontinence (p=0.05).

Table 4 indicates that age almost significantly correlated with dysuria and stress incontinence but its relation with urge incontinence, frequency and nocturia was not statistically significant.

Table 5 - indicates that parity was significantly related with dysuria, stress incontinence and urge incontinence. However, it was not related with frequency and nocturia. Also, it is indicated that medical diseases are significantly related with frequency (p=0.001), nocturia (p=0.001), stress incontinence (p=0.001) and urge incontinence (p=0.02). However, no such significant relationship exists with dysuria (p=0.25).

DISCUSSION

The present findings indicated that 42.2% of the participants experienced vaginal dryness, 16.1% vaginal itching, 21.5% vaginal discharge and 36.7% dyspareunia. In a study in Istanbul, Turkey by Yesiltepe and colleagues [9], similar figures were reported: vaginal discharge (23%), dyspareunia (45.3%) and urologic problems (68.8%), which are in line with the findings of the present study. Also, age is correlated with urologic symptoms such as stress incontinence; in the present study, its relationship with vaginal discharge and dyspareunia was shown, which is in accordance with Hagstad and Janson too [10]. In the present study, 54% of the cases experienced incontinence; in another Iranian study by Chaychyan [11], 28.4% of participants in Tehran, Iran were affected by incontinence; the difference can be attributed to sampling location and cultural differences between capital-dwellers and residents of Sabzevar, Iran, who might not have been familiar with ways of prevention and treatment of the complication. In an Asian study by Huang and colleagues [12], with the mean age of 53.8±7.4

years (almost similar with the present study), 70% of the participants had reported stress incontinence within the past year; the figure was 29.9% within the past four weeks in the present study and the difference can be attributed to the duration of reporting.

In menopausal women, genital atrophy is delayed phenomenon, which ultimately leads to vaginitis, itching and obvious narrowing of vagina. It affects not only the vagina but also urinary tract and bladder are affected. Stress incontinence, urge incontinence and feeling the need for urination are all complications resulting from thinning of the bladder mucus and urinary tract [13]. In the present study, 28.5% experienced pain and dysuria, 36% strongly felt the need for urination, 40.5% had frequency, which all indicate postmenopausal complications of the genital system.

Also, postmenopausal years were associated with vaginal discharge and dyspareunia in the present study. Medical diseases were also found to be significantly related with frequency, nocturia, urge need for urination (stress incontinence) and urge incontinence. The present study indicated that number of pregnancies was significantly related with dysuria, urgency (stress incontinence) and urge incontinence. However, it was not related with frequency and nocturia. In a study by Sullivan, alternative treatment with systemic estrogen reduced symptoms of urge incontinence in postmenopausal women [14]. In a similar study in 2001, clinical improvements were observed in SUI after hormone therapy after three months [15]. In various other studies, the role of age, parity, urinary infections and occupational conditions have been considered important; also, weakness or failure of the muscular-nervous dysfunction of the pelvic floor and muscles supplying urinary control function was noted [1]. In the present study, age was shown to be significantly related with vaginal discharge, dysuria and urge need for urination, (urinary stress incontinence).

Also, a significant relationship was found to exist between parity and variables such as dysuria, urgency (stress incontinence) and urgency. A high percentage of affected women in Europe and the United States (30 to 50%) together with the lack of an absolute approach for treatment or prevention show the importance of paying attention to this complication. Lowered estrogen level on menopause causes the complicating urogenital symptoms. Vaginal dryness is one of the most common problems of postmenopausal women, experienced by 20 to 40% of women throughout the world [16]; it is common and associated with other symptoms such as

itching and dyspareunia. In the present study, 88% of the participants reported vaginal dryness and 33% reported itching; Bozkurt and colleagues' study [1] was almost similar to ours, whereas 35% reported vaginal itching and dryness. In Bozkurt and colleagues' [1] study, 4.1% experienced vaginal discharge, which was different in the present study (21.5%). Dyspareunia was reported to be rising up to age 60, but remaining constant up to 10% [1] but in the present study, 35.7% experienced dyspareunia [1]. Regarding risk factors we investigated, parity significantly correlated with urge need for urination (urinary stress incontinence) and urge incontinence. Also, number of pregnancies significantly correlated with dysuria, urge need for urination (urinary stress incontinence) and urge incontinence; however, it showed no significant relationship with frequency and nocturia; we will consider the last two cases as the prevalence.

Dysuria is another complication in postmenopausal women, with a prevalence of 10 to 25 % in various cases [17]. Mason and colleagues [18] showed that urinary stress incontinence is highly prevalent in women with frequent normal delivery. We investigated the same effect and observed that its prevalence is 28.5% in our population. Urinary stress incontinence in postmenopausal women has been reported to be from 10 to 50% [19]; this similarly came up to be around 40% in the present study.

Previous research showed that diabetes can be a risk factor for dysuria, vaginal discharge and itching [20]; in the present study, medical diseases were found to be significantly related with frequency, nocturia, urgency (stress incontinence) and urge incontinence; but it showed no significant relationship with dysuria. These were almost in line with Bozkurt and colleagues' findings [1].

Hormone therapy was also investigated in the present study and was shown to be significantly related with vaginal discharge, dyspareunia and vaginal dryness but not with frequency. In Bozkurt and colleagues' study, hormone therapy increased frequency, implying that patients with frequency are inclined to take hormones [1].

In the present study, type of menopause was not significantly related with dysuria, urgency (stress incontinence), urge incontinence, frequency and nocturia, which are in line the findings of Bozkurt and colleagues [1] and Hagstad and Janson [10].

In conclusion, the present study was conducted to determine the prevalence of urogenital symptoms and associated risk factors in postmenopausal women, which

is underspecified in Iran and even not attended in Sabzevar region in the Northeastern part of Iran. These symptoms are mainly the source of inconvenience for most women and were shown to be related to variables such as age, parity, medical diseases and menopausal duration.

Conflict of Interest: The authors declare no conflict of interest.

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