

Prevalence and Determinants of Genitourinary Syndrome among Postmenopausal Women of Eastern UP: A Cross Sectional Study

Aradhana Singh¹, Reena Srivastava², Vani Aditya³, Jaya Shukla⁴

¹Associate Professor, Dept. of Obstetrics and Gynaecology, BRD Medical College, Gorakhpur, UP, India.

²Ex Professor and Head, Dept. of Obstetrics and Gynaecology, BRD Medical College, Gorakhpur, UP, India.

³Professor & Head of Dept. of Obstetrics and Gynaecology, BRD Medical College, Gorakhpur, UP, India.

⁴Resident, Dept. of Obstetrics and Gynaecology, BRD Medical College, Gorakhpur, UP, India.

Corresponding Author: Aradhana Singh

ABSTRACT

Objective: This study was centered to explore the prevalence and determinants of genitourinary syndrome of menopause (GSM) in postmenopausal women of Eastern, Uttar Pradesh (UP).

Methodology: A cross sectional study was performed, over a period of 6 months (September 2018 to February 2019), on 162 women, who had attained menopause one or more years back, visiting to Gynecology OPD of B.R.D. Medical College, Gorakhpur, Uttar Pradesh and had given consent for participation. Using a pre structured questionnaire, the participating women were questioned about genitourinary complains, and the relationship between these symptoms and other factors were determined.

Results: The prevalence of genitourinary syndrome was found to be 38.6%. The most prevalent genital symptom was vaginal irritation/burning (69.35%), followed by vaginal dryness (61.29%). Increased frequency of micturition (54.83%) and dysuria (51.6%) were the most prevalent urological symptoms. However, dyspareunia, in sexually active females, was the most common (14.52%) symptom. Most prevalent signs were loss of vaginal rugae (88.71%) and vaginal pallor (69.35%). The prevalence of genitourinary symptoms was higher in women already having urogynecological pathologies, like stress incontinence (OR 3.6), vaginal prolapse (OR 4.43), urinary tract infections (OR 2.77). BMI >30 kg/m² was found to be an important determinant for genitourinary syndrome.

Conclusion: The prevalence of GSM is very high in Eastern UP. There is an urgent need that all Government and non-Government health sectors should have a menopausal clinic, with the aim of timely diagnosis and treatment and to improve the quality of life of menopausal women.

Key words: - genitourinary syndrome; menopause; dyspareunia; vaginal dryness.

1. INTRODUCTION

Menopause is an accepted, universal phenomenon that occurs in a woman's life. World Health Organization has defined menopause as, permanent cessation of menstruation, for 12 consecutive months, due to loss of ovarian functions¹. Worldwide, the average age of natural menopause is 51 years, while in India, it is at a rather young age of 46 years². About 70% of menopausal women experience

somatic, psychological, vasomotor, sexual and genitourinary symptoms. Of them, about 50% experience genitourinary and sexual symptoms³ called "Genitourinary Syndrome of Menopause" (GSM). GSM is a new terminology, approved by the "International Society for the Study of Women's Sexual Health" (ISSWSH) and the "North American Menopause Society" (NAMS), in 2014, to replace the earlier used

term, vulvovaginal atrophy and atrophic vaginitis⁴.

Unlike vasomotor symptoms of menopause, genitourinary symptoms are chronic, progressive and become worse, rather than improve, over time. GSM encompasses signs and symptoms of vulvovaginal, urinary tract and sexual dysfunction, secondary to hypoestrogenism of menopause. Vulvovaginal symptoms have been reported by 45% - 65%, urinary symptoms by about 20%-50% and sexual symptom by about 20% - 40% menopausal women, in different studies^{5,6,7}.

Despite such a high prevalence of genitourinary symptoms of menopause, it remains underdiagnosed and undertreated. The probable reasons being, unawareness, associating the symptoms with natural aging and hesitancy to talk about their symptoms with family members and practitioners. There is a lack of knowledge, that the symptoms can be treated and their quality of life be improved.

With increasing life expectancy, women in India, on an average, could spend approximately 30 years, in postmenopausal stage of life. Hence GSM needs urgent attention and demands high priority in our country.

Although, menopause related symptoms have been extensively studied, studies regarding GSM, has not gained much attention in India and especially in Eastern UP. No data regarding GSM, is available from Eastern UP region of India. This study was conducted with an objective to measure prevalence and identify factors, other than menopause, affecting genitourinary symptoms among menopausal women attending a tertiary care facility of Gorakhpur, which caters to a wide population from Gorakhpur, Basti, Santkabirnagar, Maharajganj, Kushinagar, Deoria, Mau and Western Bihar. These patients are representative of Eastern UP.

2. METHODS

This single center, cross sectional and observational study, involved

postmenopausal women, visiting gynecology OPD of B.R.D. Medical College, Gorakhpur, over a period of 6 months (September 2018 – February 2019). Sampling frame was, all menopausal women visiting Gynecologic OPD of BRD Medical College, Gorakhpur and sampling technique was purposive sampling.

This study included 162 postmenopausal women, visiting gynecologic OPD during the study period, who had attained menopause one or more years back, and gave consent to participate, after explaining to them, the structure and nature of this study.

2.1 Exclusion criteria –

1. Perimenopausal women
2. Postmenopausal women with -
 - surgical menopause,
 - already on hormone or non-hormonal replacement therapy,
 - on chemotherapy or radiotherapy for a known malignancy,
 - having abnormal cytology in pap smear with/without suspected malignancy,
 - women having serious disease or mental retardation.
 - having chronic disease or any organ dysfunction or skin disease,
 - on antiestrogen, antipsychotic, steroid or antidepressant medication,
 - using lubricant powder, irritant panty liners.

2.2 Study tool – All eligible women were given a structured questionnaire which consisted of two parts.

Part 1- Included general information, including socio-clinodemographic data, obstetrical, menstrual and sexual history, personal and family history.

Part 2- consisted information regarding GSM symptoms, through a checklist of 20 problems (6 vulvovaginal symptoms, 7 urinary symptoms and 7 sexual symptoms) with yes or no options.

2.3 Data analysis-

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) program, version 22. Descriptive analyses were conducted to measure mean values and standard deviations for continuous variables and proportions for the categorical variables. For comparisons

between groups and single factor analysis, Pearson's Chi Square test was used. Binary logistic regression analysis was used to evaluate the relationship between demographic characteristics and GSM. A p-value < 0.05 was set as the significance threshold.

3. Tables

Table 1. Demographic characteristics of the participants

Demographic characteristics	Number (n = 162)	Proportion (%)
Age (years)		
40-50	45	27.8
50-60	75	46.3
>60	42	25.9
Education		
Illiterate	84	51.9
Primary school	31	19.1
Middle school	16	9.9
High school	22	13.5
Intermediate or higher	9	5.6
Socioeconomic status		
Lower	83	51.2
Upper lower	54	33.3
Middle	25	15.4
BMI		
<25	24	14.8
25-30	82	50.6
>30	56	34.6
Duration of menopause(years)		
1-5	72	44.4
>5	90	55.6
Sexual activity:		
Sexually Active	19	11.7%
Sexually Inactive	143	88.3%

Table 2. Prevalence of genitourinary symptoms

Genitourinary symptoms	Number (n = 62)	Proportion (%)
vulvovaginal symptoms	51	82.25
Irritation/burning	43	69.35
Vaginal dryness	38	61.29
Pelvic pain	37	59.60
Discharge per vaginum	34	54.80
Itching	13	20.96
Urological symptoms	46	74.19
Increased frequency of micturition	34	54.83
Dysuria	32	51.60
Recurrent UTI	17	27.41
Urgency	11	17.74
Stress incontinence	10	16.13
Sexual Symptoms	16	25.80
Dyspareunia	9	14.52
Bleeding after intercourse	7	11.29
Arousal Difficulty	6	9.67

Table 3: - prevalence of genitourinary signs

Signs	Number (n = 62)	Proportion (%)
Loss of vaginal rugae	55	88.71
Vaginal pallor	43	69.35
Petechiae/fissures/fragility	39	62.90
Decreased elasticity of vagina	31	50
Prominent urethral meatus	21	33.87
Introital retraction	18	29.08

Table 4: - sociodemographic determinants of GSM

Sociodemographic determinants	Total n = 162	GSM n = 62	Non-GSM n = 100	Odds Ratio	P value (< 0.05)
Education					
Illiterate	84	39	45	2.07	0.026647
Literate	78	23	55		
Socioeconomic status					
Lower	83	35	48	1.40	0.295551
Upper lower and middle	79	27	52		
Duration since menopause					
1-5 years	72	21	51	2.03	0.032962
>5 years	90	41	49		

Table 5: - Association of GSM with urogynecological pathologies:

Urogynecological Pathologies		GSM (n = 62)	NON-GSM (n = 100)	Odds Ratio	P value (<0.05)
Stress Incontinence n = 15	YES	10	5	3.6	0.017538
	NO	52	95		
Recurrent Urinary Tract Infection n = 29	YES	17	12	2.77	0.012837
	NO	45	88		
Vaginal Prolapse n = 40	YES	26	14	4.43	0.000061
	NO	36	86		

Table 6: - association of GSM with Body Mass Index

Body Mass Index	Total Patients (n=162)	GSM (n=62)	Non - GSM (n=100)	Odds Ratio	P value
Obese >30 kg/m ²	56	39 (62.9%)	17 (17%)	8.27	0.00001
Nonobese < 30 kg/m ²	106	23 (37.1%)	83 (83%)		

4. RESULTS AND DISCUSSION

Estrogen receptors are present in vagina, vulva, musculature of pelvic floor, endopelvic fascia, urethra and bladder trigone, during reproductive life. Their level decline with menopause, leading to marked atrophic changes and symptoms characteristic of vulvovaginal, urinary tract and sexual dysfunction⁸.

Atrophic changes in vagina are characterized by thinning of epithelium, loss of rugation and reduced secretion during coitus. The atrophic vagina is gradually traumatized, heal by fibrosis and consequently diminishes in size and length. Lubrication of vagina is a process of transduction, in response to congestion of fluid in perivaginal tissue. In menopause, this lubrication diminishes following atrophic change, giving rise to sexual symptoms⁹.

Atrophic change also affects urethra and trigone of bladder, leading to urinary symptoms like dysuria, frequency and urge incontinence. The tone of pelvic muscles and elasticity of the pelvic ligaments is gradually lost, which results in lower closing pressure of urethra and incontinence¹⁰.

The mean age of the 162 study participants was 59.5±8.4 years. GSM was reported by 38.6% of participants (table 2).

This prevalence rate is comparable with that of studies by Geng et al¹¹, Chua Y. et al¹², Nappi R.E. et al¹³. However, contrary findings were documented from other two studies too. Moral E. et al¹⁴ found that GSM is very prevalent in Spanish postmenopausal women, affecting up to 70% of those consulting a gynecologist. Similarly, in Franklin José Espitia De La Hoz¹⁵ study involving 558 women from Colombia, the prevalence of genitourinary syndrome of menopause was 51.6%. The decreased prevalence reported in the present study, might be due to stigma in the population studied, to come out with their actual symptoms. Also, the prevalence of GSM would have been varied, had larger group been studied.

The most prevalent vulvovaginal symptom was vaginal irritation / burning, amounting to 69.35% in the present study (Table 2). Whereas, vaginal dryness was reported as a very common complaint, among postmenopausal women with GSM, in other studies; such as, Geng et al¹¹, Chua Y. et al¹² and Moral E. et al¹⁴. In Italian AGATA study 56.9% women had vaginal

irritation and burning, which is similar to this study¹⁶.

Vaginal dryness was the most commonly experienced symptom and was found in 100% of menopausal women studied in AGATA study, while it was experienced by 61.29% women in this study. In REVIVE survey, involving 3046 postmenopausal women, 55% women had vaginal dryness, which was the most common symptom¹⁷.

Only 11.7% women were sexually active in this study. Sexual symptoms were reported by 25.8% women with GSM, of which, dyspareunia was the most common (14.52%) symptom (table 2). While in other studies done worldwide, maximum symptoms were pertaining to sexual problem. Prevalence of dyspareunia was reported to be 57%, in a study by Franklin José Espitia De La Hoz¹⁵. A study conducted by Nappi et al¹³, on 1805 postmenopausal European women, showed dyspareunia in 34.8% women. In a Swedish study by Constantin S. Josef and Zoltan Bekkassy¹⁸, 38% postmenopausal women were found to have dyspareunia and loss of interest in sexual relations. The less number in the present study, might be due to women taking it for granted, that sexual life is no more after menopause, hence a smaller number of sexually active women and also, hesitancy to talk about problems related to sexual function, to their clinicians.

Prevalence of urological symptoms in this study was 74.19%, of which the most prevalent symptom was increased frequency of micturition (54.8%), followed by dysuria (51.6%) (table 2). However, the prevalence of urinary symptoms was lower in other studies. In AGATA study, done by F Palma et al¹⁹, dysuria was reported by 36.1% patient. Prevalence of frequency of micturition was 22.7% in a study done by Manonai J et al²⁰ among Thai women attending Menopause clinic.

Most prevalent sign in this study was loss of vaginal rugae (88.71%) (Table 3). This resembles a study done by F. Palma et al¹⁹, in which the prevalence of loss of

vaginal rugae was found in 92%. Moral et al¹⁴ found that most prevalent sign was decreased moisture (93.7%).

Studies show large differences between cultures, in sociodemographic and other determinants of GSM^{21,22}. In the present study, GSM was more in patients with low socioeconomic status (OR= 1.40, $P= 0.295551$) and significantly associated with lower educational level (OR= 2.07, $P= 0.026647$) (table 4). In their study, on postmenopausal women, aged 45-55years, Doyal Dasgupta et al²³ found a relationship among low educational level and rural residential status.

We also analyzed the prevalence of GSM by subgroups, categorized by time since menopause (Table 4). Urogenital symptoms were significantly more (OR= 2.03, $P= 0.032962$) in women, who attained menopause more than 5 years back.

GSM was also significantly associated with the presence of urogynecological pathologies in this study; stress incontinence (OR 3.6, $P= 0.017538$), recurrent UTI (OR 2.77, $P= 0.012837$), vaginal prolapse (OR 4.43, $P= 0.000061$) (Table 5). This is consistent with the findings observed by Moral et al¹⁴ that GSM was significantly associated with the presence of urogynecological pathologies; Stress incontinence (OR 3.30, $P=0.001$) and vaginal prolapse ($P=0.0024$). On the contrary, association between GSM and urinary tract infection was not significant ($P=0.062$) in his study.

In this study, GSM was reported significantly more by women who had a BMI >30 kg/m² (OR= 8.27, $P=0.004$) (Table 6), which is in line with a study done by Geng et al¹¹. They observed that GSM was found to be associated with post menopause ($P=0.001$, OR 1.52), at least 2 abortions ($P=0.035$, OR 1.42), BMI >30 kg/m² ($P=0.032$, OR 1.91) and diabetes ($P=0.041$, OR 1.94).

5. CONCLUSION

This study has shown that GSM is common (38.6%), among postmenopausal

women of Eastern UP. Most prevalent symptom was vulvovaginal (82.25%), followed by urological symptoms (74.19%). Sexual symptoms were reported by only 25.80% women in this study, while studies from developed countries showed that sexual symptoms were most common. In our country, because of stigma, social and cultural constrains and embarrassment, women ignore these symptoms and never seek health assistance.

Obesity was found to be the most important determinant of GSM in this study, apart from lower educational and socioeconomic level.

Health practitioners should proactively raise and discuss genitourinary and sexual symptoms with menopausal women; educate them and treat them. Also, they should enquire into the determinants and other risk factors for GSM. There is an urgent need that all Government and private health sector should have a menopause clinic, to address this hitherto unmet, but significant postmenopausal health concern.

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