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Prevalence of Genitourinary Syndrome of Menopause and Its Correlation with Urinary Tract Infection – A Tertiary Care Hospital Study

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Abstract
Objective: *To study the prevalence of genitourinary syndrome in post-menopausal females aged between 45 – 65 years and its correlation with UTI.*
Methods: *All post-menopausal females aged between 45 to 65 years of age having symptoms of genitourinary syndrome presenting in the Gynae OPD of Government Medical College and Hospital, Amritsar and fulfill the inclusion and exclusion criteria were selected for the study. After a thorough history, genitourinary symptoms, signs were noted. GSM positive patients were subjected to urinary culture examination.*
Results: *Of all the 200 women evaluated for external genital, urinary and sexual signs and symptoms, the prevalence of GSM was found to be 74% (148/200). The prevalence of urinary tract infection was found to be 10.8% of the women reporting positive for GSM.*
Conclusions: *GSM is highly prevalent in the post menopausal women affecting upto 74% women consulting the gynaecology out patient department, but mostly remain underdiagnosed and undertreated as the patients do not visit the gynaecologist. Given its correlation with UTI, incontinence etc., it is necessary to provide adequate evaluation, diagnosis and management of post menopausal women to improve the quality of life of these women.*

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I. Introduction :

"Genitourinary syndrome of menopause (GSM), earlier known as vulvovaginal atrophy, atrophic vaginitis, or urogenital atrophy, is a chronic, progressive vulvovaginal, sexual, and lower urinary tract condition characterized by a host of symptoms secondary to a clinical state of hypoestrogenism after onset of menopause."[1] The syndrome or its features manifest in some manner in approximately 40-54% of postmenopausal women and 15% of premenopausal women.[1]

A new term Genitourinary Syndrome of Menopause (GSM) was coined in early 2014. The diagnosis of GSM has been made till now by presence of genital and urinary symptoms/signs (atleast two symptoms or one sign and one symptoms) that were referred as bothersome and associated with menopause and not accountable by any other pathology.[2]

II. Materials And Methods:

Study Design :

This prospective observational study was done on all post-menopausal women aged between 45-65 years of age presenting to gynaecology OPD, Bebe Nanki Mother and Child Care Centre (BNMCCC), Govt. Medical College, Amritsar for a period of 1.5 years, from February 2019 to August 2020. This study was conducted after taking permission from Thesis Committee and Institutional Ethics Committee, Govt. Medical College, Amritsar after taking a written informed consent.

Inclusion Criteria :

1) All post-menopausal females aged between 45 – 65 years of age having symptoms of genitourinary syndrome.

Exclusion Criteria :

1) Being a premenopausal woman having regular periods.
2) Having had irregular menstrual bleeding caused by polycystic ovarian syndrome or any other pathological reason.
3) Having had hysterectomy, ovariectomy, chemotherapy or radiotherapy.
4) Having no sexual partner.
5) Having had antibiotic treatment within the past month.

6) Having had oestrogen or progesterone hormone therapy within the past 6 months.
7) Having a serious organic disease.
8) Premature menopause.
9) Having a serious cognitive disorder.

III. Methodology:

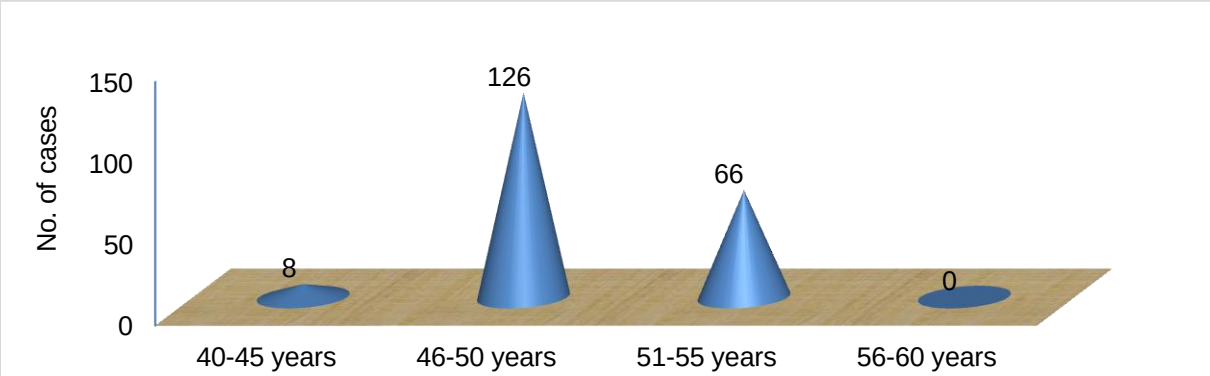
All post-menopausal females aged between 45 to 65 years of age having symptoms of genitourinary syndrome presenting in the Gynae OPD fulfilling the inclusion and exclusion criteria were selected for the study. Patients were explained regarding the nature of the study and written informed consent was taken. After a thorough history, Clinical examination, women with atleast two genital and/or urinary symptoms or one symptom and one sign that were bothersome and were associated with menopause and not accountable by any other pathology were taken as suffering from genito urinary syndrome (GSM).
Patients who were diagnosed with GSM were subjected to urinary culture examination.

IV. Observations:

TABLE 1: AGE WISE DISTRIBUTION OF WOMEN

Age group (years)	Total no. of cases	
	No.	%age
45-50	32	16.00
51-55	48	24.00
56-60	50	25.00
61-65	70	35.00
Total	200	100.00
Mean age	56.16±5.27	

FIGURE 1: AGE OF ONSET OF MENOPAUSE



The above bar diagram shows age of onset of menopause
Mean age of menopause was 47.73±2.62 years.

TABLE 2: DISTRIBUTION OF WOMEN ACCORDING TO EXTERNAL GENITAL SIGNS AND SYMPTOMS

External genital signs and symptoms	No.	%age
Leucorrhoea	43	21.50
Vaginal dryness	132	66.00
Pruritis vulvae	54	27.00
Vulval irritation/burning	67	33.50
Vaginal pain and pressure	41	20.50
Suprapubic pain	13	6.50
Fewer vaginal rugae	87	43.50
Thinning of vaginal epithelium	82	41.00
Decreased turgor and elasticity	77	38.50
Thinning/greying pubic hair	49	24.50
Labial shrinking	35	17.50
Fusion of labia minora	41	20.50
Vaginal Tenderness	34	17.00
Pale vaginal mucous membrane	40	20.00
Increased vaginal friability	53	26.50
Erythema	24	12.00
Ecchymosis	12	6.00
Presence of petechiae	59	29.50
Leukoplakic patches on vaginal mucosa	2	1.00

The table 2 depicts 3 (21.50%) of women reported leucorrhoea, 132 (66%) presented with complaints of vaginal dryness, and pruritis vulvae was seen in 54 (27%) cases.

Vulval irritation/burning was the presenting symptom in 67(33.50%) women while vaginal pain and pressure in 41 (20.50%). Suprapubic pain was seen in 13 (6.50%). Many women had more than one symptom.

87 (43.50%) of women were having fewer vaginal rugae, 82 (41%) thinning of vaginal epithelium, 77(38.50%) decreased turgor and elasticity and 49 (24.50%) having thinning/greying of pubic hair.

TABLE 3: DISTRIBUTION OF WOMEN ACCORDING TO UROLOGICAL SYMPTOMS AND SIGNS

Urological signs and symptoms	No.	%age
Frequency	44	22.00
Urgency	38	19.00
Post void dribbling	33	16.50
Nocturia	56	28.00
Stress / Urge incontinence	62	31.00
Dysuria	33	16.50
Haematuria	2	1.00
Recurrent urinary traction infection	14	7.00

The table 3 depicts that among the urological symptoms and signs, 44 (22%) of women were having increased frequency of micturition and 38 (19%) of women had urgency.

TABLE 4: DISTRIBUTION OF WOMEN ACCORDING TO SEXUAL SYMPTOMS AND SIGNS

Sexual signs and symptoms	No.	%age
Loss of libido	46	23.00
Loss of arousal	61	30.50
Lack of lubrication	110	55.00
Dyspareunia	80	40.00
Dysorgasmia	77	38.50
Pelvic pain	45	22.50
Bleeding or spotting during intercourse	8	4.00

While taking into account sexual symptoms and signs, it was found that 46(23%) of women were having Loss of libido and 61 (30.5%) of women had loss of arousal.

Of all the 200 women evaluated for external genital, urinary and sexual signs and symptoms, the prevalence of GSM was found to be 74% (148/200), showed sign and symptoms of GSM that were referred as bothersome by the patients and were associated with menopause.

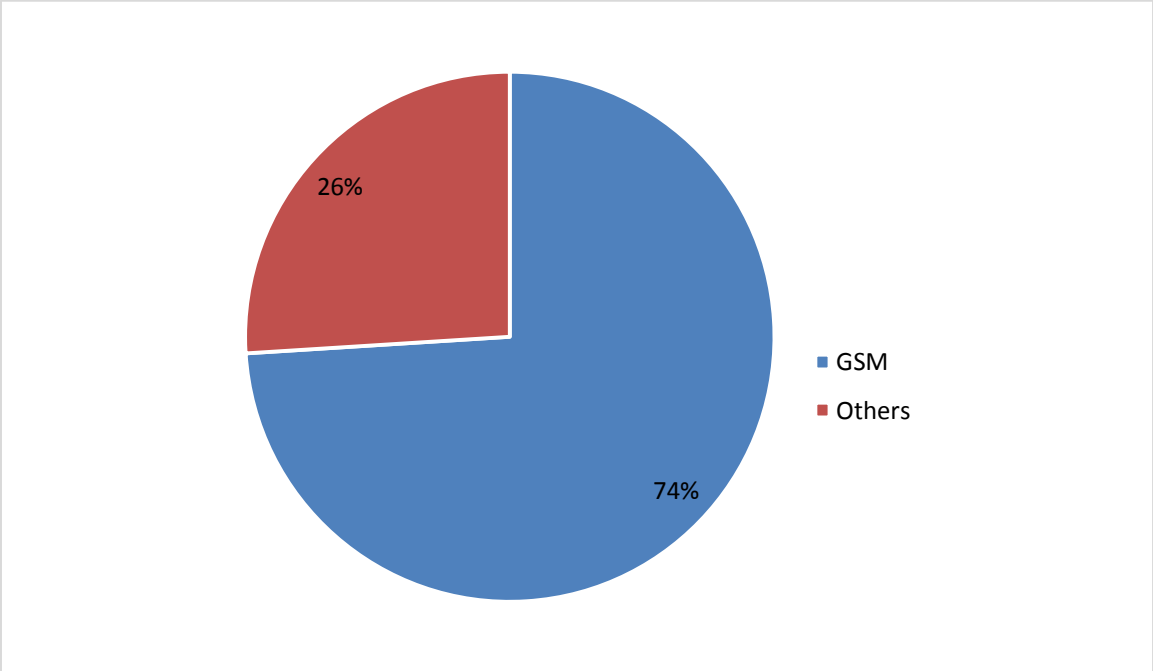


FIGURE 2: PREVALENCE OF GENITOURINARY SYNDROME (GSM)

TABLE 5: DISTRIBUTION OF WOMEN ACCORDING TO URINE CULTURE EXAMINATION

Culture	No. of cases (n=16)	%age
E.coli	7	43.75
Klebsiella	3	18.75
Candida	3	18.75
S.aureus	1	6.25
Pseudomonas	1	6.25
Coagulase negative staph	1	6.25

Among those 16 (10.4%) cases (16/148), who had urinary tract infection, culture reports showed E.coli infection as the most common infection in 7/16 (43.75%) cases.

V. Discussion :

In the present study, out of 200 women prevalence of GSM was found to be 74% (148/200).

In our study, (Table 1) among 200 women majority that is 70 (35%) women were between 61-65 years of age, mean age was 56.16±5.27 years. Huang et al., in their study found that the mean age of the study population was 53.8 years ± 7.4 years,[3] and in another study by Fazel et al., in 2011, mean age of participant was 56.81 years ± 8.13 years.[4]

In our study, it was found that most women i.e. 126 (63%) attained menopause in the age group 46-50 years of age, Mean age of menopause was 47.73±2.62 years (figure 2). Average age of menopause of an Indian woman is 46.2 years much less than their Western counter parts (51 years).[5]

In our study, Prevalence of vulvovaginal symptoms was 74% (148/200). Vaginal dryness was found to be the most common symptom (Table 2). In large cohort surveys in Western populations, 45% to 63% of postmenopausal women reported that they had experienced vulvovaginal symptoms, most commonly vaginal dryness; Faizal et al[4], in 2011 indicated that 42.2% participants experienced vaginal dryness,

In our study, among clinical findings it was found that, 87 (43.50%) women were having fewer vaginal rugae, On examination, 59 (29.50%) had petechiae. The GENISSE study conducted by Moral E et al, to study the prevalence of GSM in Spanish postmenopausal women, most prevalent signs were decreased moisture and loss of vaginal rugae.[2]

In the present study, among the urological symptoms and signs, 44 (22%) women were having increased frequency. Dysuria was the presenting complaint in 33 (16.50%). Similar results were seen in The GENISSE study.[2] In a study by Robinson and Cardozo, about 20% of postmenopausal women had severe urgency and almost 50% had stress UI (SUI). Fazel et al[4] (2011), 54% of the cases experienced incontinence.

Of all the 200 women evaluated for external genital, urinary and sexual signs and symptoms, the prevalence of GSM was found to be 74% (148/200), nearer to 70% by GENISSE study.[2]

In our study, the prevalence of urinary tract infection was found to be 10.8% of the women reporting positive for GSM. Epidemiological studies have shown that the prevalence of UTI in women increased with age. A population based case control study, risk factors of urinary tract infections in post menopausal women, by Hu KK et al was conducted in 2004 which studied women between 55-75 years of age Escherichia coli was the infecting organism in 82.0% of women. The remaining infections were caused by Klebsiella species (5.0%), Proteus species (3.6%), group B Streptococcus (2.7%), Enterococcus (2.6%), and a variety of other organisms (4.2%).[6]

VI. Conclusion :

As the GSM may have a profound negative impact on quality of life of postmenopausal women, they should be made aware of their problems and treated with an appropriate effective therapy.

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