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To study prevalence and determinants of Genitourinary Syndrome among Menopause Women

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ABSTRACT:
OBJECTIVES: This study was centered to explore the prevalence and determinants of genitourinary syndrome of menopause(GSM) in postmenopausal women attending Gynae OPD of B.R.D Medical college, Gorakhpur, Uttar Pradesh.
METHODOLOGY: A cross sectional study was performed on 162 patients who had attained their menopause more than one year back visiting to Gynecology OPD of B.R.D. Medical College, Gorakhpur, Uttar Pradesh and had given consent for pelvic examination during a period of 6 months(September 2018 to February 2019). The participating women were questioned about their genitourinary complains, and the relationship between these symptoms and other factors were evaluated.
RESULTS: The prevalence of genitourinary syndrome was found to be 38.6%. The most prevalent genital symptoms were irritation/burning(68.2%), itching(61.9%), pelvic pain(60%). Increased frequency of micturition(55.5%) and dysuria(52.4%) were most prevalent urological symptoms.However, superficial dyspareunia in sexually active females was encountered to be 48.2%. Most prevalent signs were loss of vaginal rugae(88.4%) and vaginal pallor(68.9%). The prevalence of genitourinary symptoms was higher in women already having urogynecological pathologies i.e. stress incontinence(OR 2.6), vaginal prolapsed(OR 2.2), urinary tract infections(OR 2.2). BMI>30 kg/m^2 was an important determinant for genitourinary syndrome.
CONCLUSION: The Genitourinary syndrome of menopause(GSM) is prevalent in postmenopausal women affecting upto 38% of those consulting gynecologist which is not a less number . In this study only 19(11.7%) sexually active in which superficial dyspareunia amounted to 48.2%. This less number might be due to women taking it granted that sexual life is no more after menopause and not talking about their problems related to sexual function to the clinicians for proper management. While in other studies done worldwide maximum symptoms were pertaining to sexual problem. Despite high prevalence of symptoms and signs it remains undiagnosed and undertreated. It seems necessary to provide adequate evaluation in postmenopausal women.The term, GSM provides an accurate and comprehensive description of a common symptomatic postmenopausal condition and encompasses both vulovaginalatrophy and urological changes. This latest terminology helps create awareness and reduce social stigma of the problems associated with postmenopausal hypoestrogenism and helping the physician to tailor the appropriate treatment.
Keywords: Genitourinary syndrome, postmenopausal hypoestrogenism.

INTRODUCTION

Menopause related genitourinary symptoms affect upto 50% of postmenopausal women. Unlike vasomotor symptoms of menopause genitourinary symptoms are chronic, progressive and become worse rather than those which improve over time. GSM encompasses signs and symptoms of vulvovaginal, lower urinary tract and sexual dysfunction secondary to clinical state of hypoestrogenism after onset of menopause. GSM is a new terminology approved by ISSWSH (International Society for the Study of Women's Sexual Health) and NAMS (North American Menopause Society) in 2014 to replace the earlier used term vulvovaginal atrophy and atrophic vaginitis.

Of the genitourinary symptoms, vulvovaginal symptoms (dryness, itching, irritation, spotting after intercourse etc.) was reported to be experienced by 45%-63% menopausal women; lower urinary symptoms (dysuria, urgency, frequency, nocturia, urinary incontinence, recurrent UTI etc.) has been reported by about 20%-50%; sexual symptoms (dyspareunia, loss of desire, arousal difficulty etc.) has been reported by 20%-40% menopausal women in different studies.

Despite such a high prevalence of genitourinary symptoms of menopause it remains underdiagnosed and undertreated. The probable reasons being unawareness that the symptoms result directly from decline in estrogen associated with menopause and that it can be treated. Also there is a general disregard of genitourinary symptoms due to associating it as a liability of natural ageing and hesitation during discussion of such symptoms with the practitioners.

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On an average, women spend about one third of their lives in menopausal state. Since GSM has profound negative impact on quality of life of postmenopausal women, it needs more concern and women should be made aware and treated.
The purpose of this study was to measure prevalence and identify factors other than menopause affecting GSM. Among postmenopausal women in eastern Uttar Pradesh (Gorakhpur region) with an objective to increase comprehension of GSM and necessity to recognize and treat this syndrome actively in menopause health clinics.

METHODS:-

Study design and participants:

This single centre, cross sectional and observational study involved postmenopausal women visiting gynaeclogy OPD of B.R.D. Medical college Gorakhpur during September 2018 – February 2019.

Inclusion criteria- All postmenopausal women who had attained menopause more than one year back having genital and urological symptoms, women having underwent pelvic surgery including bilateral oopherectomy, women with premature menopause having genital,sexual and urological symptoms.

Exclusion criteria- Perimenopausal women, postmenopausal women on hormone therapy and chemotherapy.Women on pelvic radiotherapy due to cancer. Women having abnormal cytology in pap smear with/without suspected malignancy, women having serious disease or mental retardation. Women having critical illness or any organ dysfunction. Women on any antiestrogen medication (GnRH), women using lubricant powder, irritant or panty liners. The protocol was previously approved by the Ethics Committee of the hospital.
Only patients fulfilling the inclusion criteria were evaluated in the study after informed consent. A questionnaire asking detailed menstrual history, genitourinary symptoms and surgical history were provided to each participant.

Study Variables:

The main aims of the study were to determine the prevalence and determinants of GSM in postmenopausal women. The diagnosis of GSM was established on the basis of atleast one genital, one urological symptom and one sign. This was taken as arbitrary as there is no definite criteria for diagnosis.Questions asked to find out the age at which menopause attained, use of any lubricants, powders, soaps and panty liners contain irritants that could produce discomfort to genitourinary region. History of oopherectomy, radiation or chemotherapy, use of any antiestrogen medication taken. Questions asked about their genital symptoms like vaginal itching, discharge, pain, dyspareunia, dryness, irritation/burning and urological symptoms like frequency, urgency, dysuria, incontinence, recurrent urinary tract infection.
Pelvic examination was done & findings were recorded. Evaluated signs were vaginal pallor, introital retraction, decreased elasticity of vagina, prominent urethral meatus, loss of vaginal rugae. Pap smearexaminations were carried out to rule out any associated pathology.

Statistical Methods:

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 chai square test was used. Binary logistic regression analysis was used to evaluate the relationship between demographic characteristics and GSM. A p-value<0.005 was set as the significance threshold.

RESULTS:-

Demographic Characteristics:

The mean age of the 162 study participants was 59.5±8.4 years. The demographic characteristics are summarized in Table 1. GSM was reported by 38.6% of the 162 participants. Majority of the women were of lower socioeconomic status(51.2%). 74.1% postmenopausal women were from rural background. 50.6% women had BMI >30kg/m^2 while rest of the women (49.3%) had BMI <30kg/m^2. 19 postmenopausal women(11.7%) were sexually active. The cause of menopause was natural in 77.1% of women. Duration of menopause was less than 5 years in 55.5% of women.

Table 1. Demographic characteristics of the participants

Demographic characteristics	Number(n)	Proportion(%)
Age(years)		
40-50	45	27.7

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50-60	75	46.2
>60	42	25.9
Education		
Illiterate	84	51.8
Primary school	31	19.1
Middle school	16	9.8
High school	22	13.5
Intermediate	9	5.5
Socioeconomic status		
Lower	83	51.2
Upper lower	54	33.3
Middle	25	15.45
BMI		
<25	24	14.8
25-30	56	34.5
>30	82	50.6
Duration of menopause(years)		
1-5	90	55.5
>5	72	44.4
Sexual activity:		
Sexually Active	19	11.6%
Sexually Inactive	143	88.4%

Prevalence of GSM:

Prevalence of GSM was 38.6%. All women reported atleast one genital, one urological symptom. The prevalence of symptoms and signs of GSM is shown in Table 2. Most prevalent genital symptoms were irritation/burning(68.2%), pelvic pain(60%), itching(61.9%). Superficial dyspareunia amounted to 48.2% in sexually active postmenopausal females. Most prevalent urological symptoms were increased frequency of micturition(55.5%), dysuria(52.4%).We analyzed the prevalence of GSM symptoms and signs by subgroups categorized by time from menopause. Irritation/burning (76.3%, p=0.03) was more prevalent in women who had attained more than 5 years since menopause. This association was significant statistically ($p<0.05$). While discharge (70%, p=0.00) was more prevalent in women who had menopause within 5 years. This association was also statistically significant ($p<0.05$). Pelvic pain (61.1%, p=0.72), itching/burning (63.3%, p= 0.63) were more prevalent in women who attained menopause within 5 years. This association was not statistically significant ($p>0.05$). Increased frequency of micturition (57.7%, p=0.18) and dysuria (55.5%, p=0.29) were prevalent in postmenopausal women who had attained less than 5 yrs since menopause. This result was not statistically significant. While stress incontinence (22.2%, p=0.03) was more prevalent in postmenopausal women who attained more than 5 yrs since menopause. This could be proven statistically significant ($p<0.05$). There was no significant difference in prevalence of recurrent urinary tract infection in both groups.

Table 2. Prevalence of symptoms and signs

	Number(n)	**Proportion(%)**
Genital symptoms:-		
Irritation/burning	110	68.2
Itching	100	61.9
Discharge per vaginum	90	55.5
Pelvic pain	97	60
Vaginal dryness	34	20.9
Urological symptoms:-		
Increased frequency of micturition	90	55.5
Urgency	29	17.9
Dysuria	84	52.4
Recurrent UTI	44	27.4
Stress incontinence	25	15.5

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Sexual Symptoms:-		
Dyspareunia	9	48.2%
Arousal Difficulty	6	31.5%
Bleeding (Spotting) after intercourse	7	36.8%
Signs		
Vaginal pallor	111	68.9
Introital retraction	46	28.4
Decreased elasticity of vagina	80	49.7
Prominent urethral meatus	54	33.3
Petechiae/fissures/fragility	102	63.4
Loss of vaginal rugae	143	88.4

Association of GSM with urogynecological pathologies:

The prevalence of genitourinary symptoms was higher in women already having urogynecological pathologies i.e. stress incontinence (OR 2.6), vaginal prolapsed (OR 2.8), recurrent urinary tract infections (OR 2.2) in comparison to post-menopausal patients without urogynecological pathologies. So stress incontinence, recurrent urinary tract infection and vaginal prolapse were important determinants for genitourinary syndrome. The association of GSM with these urogynecological pathologies is shown in table 3.

TABLE 3:-

UROGYNECOLOGICAL PATHOLOGIES		**GSM (n)**	**NON GSM(n)**	**ODDS RATIO**
Stress Incontinence	YES	20	5	2.6
	NO	42	95	
Recurrent Urinary Tract Infection	YES	32	12	2.8
	NO	30	88	
Vaginal Prolapse	YES	26	14	2.2
	NO	36	86	

Association of GSM with BMI:

Out of 80 patients having BMI>30 kg/m^2 , 45(72%) patients also complained of genitourinary symptoms , while out of 82 patients having BMI< 30 kg/m^2 , only 17(27.4%) patient complained of genitourinary symptoms (OR 2.7). Therefore BMI >30kg/m^2 was also an important determinant for genitourinary syndrome. Table 4 depicts the above scenario.

TABLE 4:-

BODY MASS INDEX >30 kg/m^2	**TOTAL PATIENTS (n=162)**	**PATIENTS WITH GSM (n=62)**	**PATIENTS WITHOUT GSM (n=100)**	**ODDS RATIO**
Obese	80	45 (72%)	35 (35%)	2.7
Nonobese	82	17 (27.4%)	52 (65%)	

DISCUSSION:-

Even after huge publications and research done on this important but underrated pathology, there is still no definite criteria for diagnosis and a recognized and validated scale for GSM. This is explained by the fact that GSM covers a series of symptoms and signs of the vulvovaginal , sexual and lower urinary tract. Women spend more than one third of their lives in an estrogen-deficient postmenopausal state. Decreased estrogen levels result in lower urogenital tract changes that bring out GSM and influence adversely the quality of their lives. The prevalence of GSM in my study amounts to be 38.6%, which is comparable with Geng et al [15],Chua Y. et al[16] ,Nappi R.E. et al[17] studies. However contrary findings were documented from other two studies too. Moral E.et al[18] found that the GSM is very prevalent in Spanish postmenopausal women affecting upto 70% of those consulting a gynecologist. Similarly in Franklin José Espitia De La Hoz[19] study involving 558 women from Colombia, the prevalence of genitourinary syndrome of menopause was 51.6%. The decreased prevalence might be due to stigma in the population studied to come out with their actual symptoms. We studied 162 postmenopausal women, prevalence may be varied if larger group had been

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studied. In this study, the number of sexually active females was less amounting to around 11.6% which was in significant contrast with the study done by Nappietal[xx]done showing sexually active females amount to 79.2%

Division of the GSM into two aspects which are the genital and the urological aspect has been clearly addressed in the above discussion. The most prevalent genital symptom in my study was vaginal irritation/ burning amounting to 68.2%. Whereas vaginal Dryness was reported as a very common complaint among postmenopausal women with GSM in other studies such as Geng et al[15] ,Moral E. et al[18] , Chua Y. et al[16].

Sexual symptoms mainly Superficial dyspareunia was also a bothersome problem encountered in sexually active postmenopausal females. However very few ladies (n=19/162) were sexually active in our study group. Of these sexually active females, 48.2% (n=9)of patients complained of superficial dyspareunia. Where as prevalence of superficial dyspareunia was 27% in Geelen et al[24] and 57% in Franklin José Espitia De La Hoz[19]. A study conducted by Nappiet al conducted on 1805 postmenopausal European women showed dyspareunia at 34.8%. Other sexual symptoms such as low sexual desire accounted to 33.6%. Prevalence of post coital bleeding accounted for 36.8% which was well in line with a study conducted by Hyun-Kyung Kim etal[xxy]showing prevalence ranging from 45% to 63% in a Korean Study.

In my study the most frequent symptoms were irritation /burning (68%), itching (61.9%) which is comparable with the Italian AGATA study, involving 913 postmenopausal women, 100% of women with a diagnosis of GSM had vaginal dryness, 77.6% dyspareunia, 56.9% burning, 56.6% itching, and 36.1% dysuria[20].

A survey named REVIVE, involving 3046 postmenopausal US women with VVA,vaginal dryness (55% of women), dyspareunia (44%), and irritation (37%) were the most frequent symptoms[21]. However, vaginal dryness was the most common VVA symptom (70%), followed by vaginal irritation (32.7%), and dyspareunia (29.0%)in the European REVIVE study which involved 3768 postmenopausal women from Italy, Germany, Spain and UK[12]. In another survey, of 4201 postmenopausal women from seven European countries (Belgium, France, Germany, Netherlands, Spain, Switzerland and UK), the overall prevalence of vaginal pain/dryness was 29%, from 19% in Germany, 33% in France, and to 40% in Spain[22].

Prevalence of vaginal dryness in my study was 20.9%. Similar results from a survey conducted byGeelen et al[24]which involvednoninstitutionalizeddutch women aged 50-75 years showed prevalence of vaginal dryness at 27% and Geng et al[15] involving 1294 chinese midlife womenwhich showed prevalence of vaginal dryness at 17.5% .The percentage distribution of vaginal dryness was significantly high in other studies done regarding GSM worldwide.

Prevalence of urological symptoms in my study was 30.7% which resembles to a study done by Moral E. et al[18] involving 430 spanish postmenopausal women in which prevalence was 35.8%. Most prevalent urological symptoms in my study were increased frequency of micturition (55.5%), dysuria (52.4%). However the prevalence of these symptoms were low in other studies. In AGATA study done by F Palma et al ,dysuria was reported by 36.1% patient. Prevalence of frequency of micturition was 22.7.% in a study done by Manonai J et al[7] in Thai women attending Menopause clinic. Stress Incontinence was reported by 15.5% of patients in our study. Iosif and Bekassy[23]in their study showed that 29.2% had varied degrees of urinary incontinence. Among then 11.8% of the women reported stress incontinence which is comparable with my study.

Most prevalent sign in my study was vaginal rugae (88.4%). This resembles a study done by F. Palma et al [20], the prevalence of vaginal rugae (92%), also known as the AGATA study.GENISSE study found that most prevalent sign was decreased moisture (93.7%) conducted by Moral et al[18] in 430 postmenopausal Spanish women. In my study GSM was significantly associated with the presence of urogynaecological pathologies: stress incontinence (OR 2.6), recurrent UTI (OR 2.8),vaginal prolapse (OR 2.2). This is consistent with the findings observed by Moral et al[18] that GSM was associated with presence of urogynaecologicalpathologies : Stress incontinence (OR 3.30, p=0.001) mixed incontinence (OR 8.43, p=0.01), overactive bladder (OR 18.44, p=0.002) and vaginal prolapse (p=0.0024). On the contrary, association between GSM and urinary tract infection could not found (p=0.062).

In my study GSM was reported significantly more by women who had a BMI >30 kg/m^2 (p=0.004), which are in line with a study done by Genget al[15].They observed that GSM was found to be associated with postmenopause (p=0.001, OR 1.52), at least 2 abortions (p=0.035, OR 1.42), BMI >30 kg/m^2 (p=0.032, OR 1.91), diabetes (p=0.041, OR 1.94).

CONCLUSION:-

This study has shown that GSM is common in postmenopausal women. In my study the prevalence of genitourinary syndrome of menopause was 38.6% which is not a less number. Most prevalent genital symptoms were irritation, burning vagina (68.2%), pelvic pain (60%), itching vagina (61.9%). Most prevalent urological symptoms were increased frequency of maturation (55.5%), dysuria (52.4%). Prevalence of stress incontinence (22.2%) was more in women who had attend menopause more than 5 years. In my study only 19(11.7%) sexually active in which superficial dyspareunia amounted to be 48.2%. This less number might be due to women taking it

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granted that sexual life is no more after menopause and not talking about their problems related to sexual function to the clinicians for proper management. While in other studies done worldwide maximum symptoms were pertaining to sexual problem. Consistent to my study one of the important determinant for genitourinary syndrome of menopause was obesity. To conclude, risk factors for genitourinary syndrome should be assessed thoroughly in any woman coming in perimenopausal age to facilitate earlier management. So to suggest, at government level and at private health sectors we should have well setup menopause clinics. Good level of awareness of menopausal symptoms has to be created by social print media and awareness programs in health camps at a large scale. This will help create awareness of the problems associated with postmenopausal hypoestrogenism in helping the finish clinician to tailor the appropriate treatment. Otherwise women would be leading a low quality life for at least one third of their lifespan.

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