

# Clinical presentations of genitourinary syndrome of menopause (GSM) among menopause women

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## Abstract

Genitourinary syndrome of menopause (GSM) is a new term that describes a variety of menopausal symptoms and signs that include not only genital symptoms, sexual symptoms, and impaired function, but also urinary tract symptoms. GSM is caused not only by estrogen deficiency but also by degenerative effects and other bladder and pelvic floor processes. This study aimed to detect GSM symptoms in menopausal women in order to be able to provide effective therapy that is appropriate for improving menopausal women's quality of life. A cross-sectional study was conducted in which data of 32 menopausal women who met the inclusion criteria from December to May 2022 were collected at Arifin Achmad Hospital in Pekanbaru, Riau, Indonesia. The age of menopausal women included in this study ranged between 40–71 years and 43.8% patients had 15 years of length menopause. There were 40.6% of patient reported vaginal dryness, 72% felt pain or heat during urination and 96.9% had no recurrent urinary tract infections. Other complaints that were also reported were feeling less orgasm during sexual intercourse (54.9%) and having vaginal discharge (21.9%). Mother bothersome symptoms (MBS) was also reported that included phonophobia (9.4%), nausea (16.1%), and photophobia (6.6%). In conclusion, several complaints of menopausal individuals were reported this included vagina dryness, pain or burning when urinating, less orgasm during sexual intercourse, having vaginal discharge, and having complaints of fear, anger, and anxiety when hearing certain sounds that trigger negative emotions. These findings can be used to understanding the menopausal individuals and to be able to provide appropriate measures to ensure good quality of life to this community.

Keywords: Genitourinary syndrome of menopause, menopause, GSM, clinical presentation

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## 1. Introduction

The genitourinary syndrome of menopause (GSM) is a new term that describes a variety of menopausal symptoms and signs such as genital symptoms, sexual symptoms and urinary symptoms [1-3]. Introduced in May 2013, GSM is a term that describes the range of changes caused by a lack of estrogen during menopause [4-6].

The majority of women with GSM are older age and 50–70% of menopausal women exhibiting symptoms to some degree [7]. Despite its high prevalence, GSM remains severely underdiagnosed, owing largely to women's reluctance to seek help out of shame, or too many women's perception of it as a normal feature of natural aging. However, in many cases, healthcare professionals' reluctance to address this issue is a major cause of lack of awareness among women suffering from the GSM [8].

In Indonesia, the study of GSM among menopausal women is limited. Therefore, the objective of this study was to determine the GSM symptoms in menopausal women in order to have better understanding GSM symptoms in the country and to be able to provide effective and appropriate therapies for improving the quality of life.

## 2. Methods

A cross-sectional study was conducted among menopausal women who met the inclusion criteria. Data collection of conducted from December 2021 to May 2022 at Arifin Achmad Hospital, Pekanbaru, Riau, Indonesia. The population of this study was all menopausal women who visited the Department of Obstetrics and Gynaecology at Arifin Achmad Hospital, Pekanbaru, Indonesia between December 2021 to May 2022.

All menopausal women were first assessed with the inclusion and exclusion criteria to select the samples. menopausal women with obstetrics and gynaecology complications were excluded from the study. A questionnaire was developed and prepared to collect and assess the interested information. Direct face-to-face interviews were conducted to the respondents assisted with pre-prepared questionnaire.

During the study we collected the age, average length of menopause, the weight and height, the average number of children when menopause and the average birth weight of the baby. We also assessed some clinical presentations of GSM in respondents including the genital complaints, urinary complaints, sexual intercourse complaints, infection, mother bothersome symptoms (MBS). For MBS, we assess three components whether the

respondent experienced: (1) nausea; (2) phonophobia (fear, anger, or anxiety when hearing certain sounds that trigger negative emotions; and (3) photophobia (fear of light).

The data were presented and analysis descriptively to provide main clinical presentations of GSM in menopausal individuals. The ranges, average and percentages of the clinical presentations of GSM were provided.

### 3. Results

A total of 32 menopausal women who met the inclusion criteria were included. The characteristics and clinical presentations genitourinary syndrome of menopause among the respondents are presented in Table 1 and Table 2. The age ranged from 40 to 71 years and 43.8% participants had 15 years of the length of menopause. The mean weight of menopausal patients was 59-60 kg (9.4%) with an average height was 156 cm and the average number of was more or equal to 3.

Table 1. Characteristics of study respondents

Patients' characteristics	Results
Age ranges	40-71 years
Average length of menopause	15 years
Weight ranges	59-60 kg
Average height	156 cm
Average number of children when menopause	$\geq 3$

The most common genital complaint was vaginal dryness (40.6%), while the most common urinary complaint was feeling pain or heat during urination (72%) and the majority of those who complained about sexual symptoms reported feeling less orgasm during sexual intercourse (54.9%). There were also complaints of MBS symptoms in patients, in particular, phonophobia (fear, anger, or anxiety when hearing certain sounds) in 19.4% of patients.

Table 2. Clinical presentations of genitourinary syndrome of menopause in study respondents

Genital complaints	Percentage
Vaginal dry	40.6%
Vaginal itching	31.3%
Vaginal irritation	21.9%
Vaginal pain during activity	34.5%
Vaginal pain when touched	12.5%
Vaginal loose	25.0%
Urinary complaints	
Feeling pain or burning when urinating	72.0%
Having difficulty controlling urination (i.e., when laughing, sneezing, coughing, or lifting heavy weights)	31.3%
Urinating frequently at night ( $\geq 8$ times)	65.6%
Urinating frequently at night ( $< 8$ times)	54.8%
Feeling the need to urinate urgently	28.1%
Suffer from recurring urinary tract infections	3.1%
Sexual intercourse complaints	
Low sexual drive	33.5%
Experiencing pain while having sexual intercourse	49.9%
Feel less enthusiastic when having sexual intercourse	44.7%
Feeling less orgasm during sexual intercourse	54.9%
Bleeding during sexual intercourse	3.2%
Infection	
Has vaginal discharge	21.9 %
Odorous vagina	12.5%
Mother bothersome symptoms	
Feeling nausea	16.1%
Have phonophobia	19.4 %
Have photophobia (fear of light)	6.6%

#### 4. Discussion

The menopausal women who participated in this study ranged in age from 40 to 71 years old and had gone through menopause, which was marked by the cessation of their menstrual cycles, which usually occurred naturally. According to the previous study, the average age of menopause in women is over 40 years old, with an average age of 50s [9]. Menopause causes changes in the levels of the hormones estrogen and progesterone, which results in GSM syndrome. GSM is a chronic condition that affects the vagina, vulva, and lower urinary tract [10]. We discovered genital, sexual, and urinary symptoms in this study, with severity ranging from mild to intense.

According to the findings of the present study, the most common genital complaints among menopausal women with clinical GSM symptoms were vaginal dryness, itching sensation, irritation, vaginal pain during activity or when touched, and vaginal looseness, as well as occasional bleeding during intercourse. These are symptoms that have been reported in other studies of menopausal women from around the world [11-13]. These symptoms are caused by a drop in estrogen levels after menopause. There are anatomical and histological changes in female genital tissue as a result of estrogen deficiency after menopause, including decreased collagen, hyaluronic acid, and elastin levels, epithelial thinning; changes in smooth muscle cell function; increased connective tissue density; and fewer blood vessels. These changes reduce vaginal elasticity, increase vaginal pH, alter vaginal flora, reduce lubrication, and make the vaginal area more susceptible to physical irritation and trauma [14, 15].

GSM syndrome patients also report sexual symptoms such as reduced sex drive, experiencing pain during sex, feeling less passionate when having sex, feeling less orgasmic during sex, and having vaginal discharge and bleeding during intercourse. Irritation and trauma during sexual activity are caused by the hypoestrogenic environment of the urogenital tract's tissues, and they reflect changes in the thickness of the vaginal epithelium and lamina propria, smooth muscle atrophy, decreased blood flow to the vaginal area, and tissue elasticity resulting from reduced concentrations of collagen, elastin, and fatty acids, hyaluronic acid [16, 17].

The women in this study also complained of urinary symptoms such as frequent pain or burning when urinating, inability to control urination (i.e., when laughing, sneezing, coughing, or lifting heavy weights), urinating frequently during the night ( $\geq 8$  times), sensation a need to urinate urgently, and suffering from recurring urinary tract infections. Reduced glycogen concentration in vaginal cells alters the vaginal microbiome (fewer lactobacilli) and raises the vaginal pH [18]. The combined effect of these pathophysiological mechanisms causes changes in the urogenital system, most notably changes in the vaginal mucosa (pallor and friability) and discharge, and changes in vaginal microbial consistency. The lower urinary tract influences the capacity and contractile ability of the bladder, urethral sphincter, and pelvic floor muscle function [18]. Estrogen deficiency that occurred after menopause causes lower urinary tract symptoms [19].

The emergence of GSM syndrome also has an impact on the quality of life in menopausal women. We discovered that those suffering from GSM syndrome also complained of MBS syndrome symptoms such as nausea, fear, anger, and anxiety when hearing certain sounds (although not strong enough to trigger negative emotions), and photophobia. This could be because they are less at ease with their bodies and try not to show signs of discomfort. However, their efforts make them more sensitive to small changes in the environment, which can trigger emotions. According to the study, there is a disparity between the number of women who experience BSM and those who are treated, as reported by the Australian Family Physician (AFP) [20]. First, women are reluctant, embarrassed, or ashamed to discuss their symptoms with their healthcare workers (HCWs), the patient has had a previous negative experience with HCWs, the patients perceive their symptoms as a natural part of aging that they must endure, and women frequently wait for their HCWs to ask questions. In addition, HCWs may be too shy or hesitant to ask the right questions (especially about sexual function), dismiss symptoms as part of normal aging, or be under time constraints [21].

With this early detection, we can provide a better quality of life through first-line treatment consisting of non-hormonal therapies such as lifestyle changes, moisturizers and lubricants. Hormonal therapy is an option for GSM symptomatic treatment. However, urinary tract complaints should be considered in cases of recurrent urinary tract infections, pelvic wall problems, and degenerative processes. Intravaginal dehydroepiandrosterone (DHEA) is another drug used to treat GSM symptoms. DHEA has been shown in studies to increase blood estrogen concentrations, resulting in an increase in sexual arousal and the restoration of lost libido. Although intravaginal testosterone has been shown to reduce symptoms of vaginal atrophy and decreased libido, its efficacy in GSM is generally unknown [22, 23].

#### 5. Conclusion

GSM is produced from a hypoestrogenic state and is characterized by the presence of genital and urinary symptoms, and decreased sexual and emotional arousal. Our data suggested that vaginal dryness, itching sensation, irritation, vaginal pain during activity or when touched, and vaginal looseness, as well as occasional bleeding during intercourse are the most common genital complaints among menopausal women. Therefore, early detection of GSM is critical in order to be able to improve the quality of life in menopausal women.

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## References

1. Castelo-Branco C, Cencelo MJ, Villero J, et al. Management of post-menopausal vaginal atrophy and atrophic vaginitis. *Maturitas* 2005; 52 Suppl 1:S46-52.
2. Kim HK, Kang SY, Chung YJ, et al. The Recent Review of the Genitourinary Syndrome of Menopause. *J Menopausal Med* 2015; 21(2):65-71.
3. Palacios S. Assessing symptomatic vulvar, vaginal, and lower urinary tract atrophy. *Climacteric* 2019; 22(4):348-351.
4. Palacios S, Castelo-Branco C, Currie H, et al. Update on management of genitourinary syndrome of menopause: A practical guide. *Maturitas* 2015; 82(3):308-313.
5. Angelou K, Grigoriadis T, Diakosavvas M, et al. The Genitourinary Syndrome of Menopause: An Overview of the Recent Data. *Cureus* 2020; 12(4):e7586.
6. Moral E, Delgado JL, Carmona F, et al. Genitourinary syndrome of menopause. Prevalence and quality of life in Spanish postmenopausal women. The GENISSE study. *Climacteric* 2018; 21(2):167-173.
7. Hoffman BL. *Williams Gynecology*. USA: McGraw-Hill Education; 2013.
8. Gandhi J, Chen A, Dagur G, et al. Genitourinary syndrome of menopause: an overview of clinical manifestations, pathophysiology, etiology, evaluation, and management. *Am J Obstet Gynecol* 2016; 215(6):704-711.
9. Mayo Clinic. Menopause. Available from: [https://www.mayoclinic.org/diseases-conditions/menopause/symptoms-causes/syc-20353397#:~:text=Menopause%20can%20happen%20in%20your,energy%20or%20affect%20emotional%20health.]
10. What Is Genitourinary Syndrome of Menopause? Available from: [https://www.healthline.com/health/menopause/genitourinary-syndrome-of-menopause]
11. Nappi RE, Kokot-Kierepa M. Women's voices in the menopause: results from an international survey on vaginal atrophy. *Maturitas* 2010; 67(3):233-238.
12. Nappi RE, Kokot-Kierepa M. Vaginal Health: Insights, Views & Attitudes (VIVA) - results from an international survey. *Climacteric* 2012; 15(1):36-44.
13. Chae HD, Choi SY, Cho EJ, et al. Awareness and experience of menopausal symptom and hormone therapy in Korean postmenopausal women. *J Menopausal Med* 2014; 20(1):7-13.
14. Nappi RE, Palacios S. Impact of vulvovaginal atrophy on sexual health and quality of life at postmenopause. *Climacteric* 2014; 17(1):3-9.
15. Tan O, Bradshaw K, Carr BR. Management of vulvovaginal atrophy-related sexual dysfunction in postmenopausal women: an up-to-date review. *Menopause* 2012; 19(1):109-117.
16. Briggs P. Genitourinary syndrome of menopause. *Post Reprod Health* 2020; 26(2):111-114.
17. Farrell AM E. Genitourinary syndrome of menopause. *Aust Fam Physician* 2017; 46(7):481-484.
18. Portman DJ, Gass ML. Genitourinary syndrome of menopause: new terminology for vulvovaginal atrophy from the International Society for the Study of Women's Sexual Health and the North American Menopause Society. *Menopause* 2014; 21(10):1063-1068.
19. Robinson D, Cardozo LD. The role of estrogens in female lower urinary tract dysfunction. *Urology* 2003; 62(4 Suppl 1):45-51.
20. Genitourinary syndrome of menopause. *Australian Journal for General Practitioners* 2017; 46:481-484.
21. Archer DF. Efficacy and tolerability of local estrogen therapy for urogenital atrophy. *Menopause* 2010; 17(1):194-203.
22. Mac Bride MB, Rhodes DJ, Shuster LT. Vulvovaginal atrophy. *Mayo Clin Proc* 2010; 85(1):87-94.
23. Palma F, Volpe A, Villa P, et al. Vaginal atrophy of women in postmenopause. Results from a multicentric observational study: The AGATA study. *Maturitas* 2016; 83:40-44.