

## Assessment of Vulvovaginal Atrophy Symptoms in Women Attending Gynaecology Clinics: A Service Evaluation Project

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### ABSTRACT

**Objective:** The genitourinary syndrome of the menopause (GSM) is a group of vulvovaginal symptoms commonly affecting menopausal women. Various questionnaires tried to quantify the impact of GSM on women, but the Vulvovaginal Symptoms Questionnaire (VSQ) has been a validated one. Understanding the symptomatology allows optimal treatment of patients. We aimed to assess the impact of GSM in the lives of patients attending gynaecology clinics including general gynaecology, menopause and urogynaecology in our hospital.

**Methods:** A prospective service evaluation project covering a three-month period, assessing the prevalence of GSM among the referral population in outpatient gynaecology. VSQ questionnaires were offered to women prior to attending the clinics irrespective of the reason of attendance. 407 patients returned a completed questionnaire: 258 were menopausal and 149 premenopausal.

**Discussion:** GSM is common irrespective of age or hormonal treatments. Vulvar dryness (32%) and abnormal discharge (30%) being the most common symptoms. A quarter of our patients complained of vulvar itching (26%) and irritation (23%) and were frustrated (26%) of their symptoms and finding it hard to show affection (23%). Moreover, 22% suffered of dyspareunia affecting their sexual relationships, while 27% experienced dryness during intercourse. GSM also had a strong impact on their social lives (21%), causing feeling of embarrassment (23%) and affecting the desire to interact with others (18%).

**Conclusion:** GSM is common in women regardless their reproductive state with strong impact on their social and personal lives, whereas local vagina Oestrogen treatment on its own is not always a sufficient mode of treatment.

### Keywords

Genitourinary Syndrome of the Menopause, Oestrogen hormone, Vulvovaginal atrophy.

### Introduction

The term genitourinary syndrome of the menopause (GSM) was introduced in 2014 to substitute the older term vulvovaginal atrophy [1]. It describes all the vulvar, vaginal, genital, and urinary symptoms that occur to women as a result to hypoestrogenemia. These symptoms could include vaginal atrophy, burning sensation, dryness, dyspareunia, dysuria, and any inconvenient regional

symptoms attributed to the lack of oestrogen hormone.

The evaluation of these symptoms, though, has been a challenging task for clinicians [2]. There are many questionnaires for the assessment of vulvovaginal symptoms, but most of them are not validated, as they are focused only on the vulvovaginal symptoms and do not study the quality of life of women [3]. The Vulvovaginal Symptoms Questionnaire (VSQ) is the one of the few questionnaires that is validated and easily accessible which can be used to assess the quality of life of post-menopausal women in primary and secondary care settings [4].

In Leicester Royal Infirmary, there are various gynaecological clinics, including urogynaecology, general gynaecology and complex menopause clinics. Women with vulvovaginal atrophy (VVA) symptoms are referring to these clinics do not have the standardised assessment of severity of symptoms prior to considering a treatment. As we are aware that good understanding of symptomatology helps clinicians to treat patients optimally in their clinical areas.

## Methodology

It was a prospective service evaluation project covering the three-month period May to July 2019. For assessment of prevalence of vulvovaginal atrophy symptoms among the referral population in gynaecology clinics in Leicester Royal Infirmary. The VSQ questionnaire [4] was offered to all women prior to attending these clinics irrespective of the reason of attendance. The women were then classified to menopausal and pre-menopausal, and the prevalence of symptoms was compared in each group individually.

In the hormone-based analyses, the four most common vulvovaginal symptoms [5] were taken into account (questions 1, 2, 4 and 5) and a comparison was made according to the hormonal treatment of the patients, rather than their menopausal state. The Progesterone treatment group included all patients using any progestogenic preparation (POP, Mirena IUS, or Implant) without the use of an oestrogenic supplement.

**Table 1:** The VSQ questionnaire with the answered questions.

	Menopause (n= 258)		Pre-menopause (n=149)		Total (n= 407)	
	n	%	n	%	n	%
1. Your vulva itching?	77	29.84	32	21.48	109	26.78
2. Your vulva burning or stinging?	48	18.6	10	6.71	58	14.25
3. Your vulva hurting?	35	13.57	16	10.74	51	12.53
4. Your vulva being irritated?	67	25.97	30	20.13	97	23.83
5. Your vulva being dry?	99	38.37	32	21.48	131	32.19
6. Discharge from your vulva or vagina?	63	24.42	62	41.61	125	30.71
7. Odor from your vulva or vagina?	46	17.83	34	22.82	80	19.66
8. Worry about your vulvar symptoms?	46	17.83	28	18.79	74	18.18
9. The appearance of your vulva?	25	29.07	15	22.82	40	9.83
10. Frustration about your vulvar symptoms?	75	29.07	34	22.82	109	26.78
11. Embarrassment about your vulvar symptoms?	66	25.58	30	20.13	96	23.59
12. The effects of your vulvar symptoms on your interactions with others?	61	23.64	25	16.78	86	21.13
13. The effects of your vulvar symptoms on your desire to be with people?	52	20.16	23	15.44	75	18.43
14. Your vulvar symptoms making it hard to show affection?	75	29.07	20	13.42	95	23.34
15. The effects of your vulvar symptoms on your daily activities?	46	17.83	21	14.09	67	16.46
16. Your vulvar symptoms affecting your desire to be intimate?	97	37.6	36	24.16	133	32.68
17. Are you currently sexually active with a partner?	170	65.89	113	75.84	283	69.53
<b>If the answer to 17 is Yes: Please proceed with the next 4 questions</b>						
18. The effects of your vulvar symptoms on your sexual relationships?	64	37.65	26	23.01	90	22.11
19. Your vulvar symptoms causing pain during sexual activity?	55	32.35	35	30.97	90	22.11
20. Your vulvar symptoms causing dryness during sexual activity?	85	50	26	23.01	111	27.27
21. Your vulvar symptoms causing bleeding during sexual activity?	30	17.65	20	17.7	50	12.29

Patients on COCP were not included due to the scarcity of their numbers, while patients on other combination of treatments (e.g., HRT and Mirena IUS in peri-menopausal women) were also excluded, as they did not fit the criteria of a certain group.

## Results

483 patients returned the questionnaire, 76 of whom did not fill it completely. So, the analyses were applied on 407 patients: 258 were menopausal and 149 premenopausal.

Most of the symptoms were prevalent in the menopausal group (Table 1). Symptoms like itching, hurting, irritation and dryness were more common in menopausal patients. Vulvovaginal burning was three times more common in menopausal women, while concerns regarding vaginal discharge or odour were dominant in pre-menopausal patients. GSM had stronger emotional and social impact on menopausal women (questions 10-16) compared to the pre-menopausal patients, especially with their ability to show affection (29% vs 13%).

The numbers (n) and cohort percentages (%) indicate the patients who answered with “Yes” the VSQ questionnaire. The answers are subdivided further to the menopausal state of the patients. The numbers showed that GSM symptoms have a serious impact in the lives of women irrespective of the menopausal state.

The majority of menopausal (65.8%) as well as pre-menopausal (75.8%) women were sexually active. The incidence of dyspareunia and coital bleeding were similar in both groups, while dryness during sexual intercourse was twice as common in post-menopausal women (50% vs. 23%) with GSM having a prevalent negative impact on their sexual relationships (37.65% vs. 23.01%).

In the hormone-based analyses of the vulvar symptoms, in each group most patients were not symptomatic of vulvar itching (Figure 1a.). However, the symptoms were less common in women who were on Progesterogenic treatment (24.07%) while women on combined treatment of systemic HRT plus vaginal oestrogen seemed to have the best results, with only 16.6% being symptomatic. One-third (36.1%) of women on local Oestrogen treatment reported vaginal itching.

The figure shows the incidence of four common vulvovaginal symptoms ((a) vulvar itching, (b) burning or stinging, (c) irritation, and (d) dryness) in four groups of women: women on HRT only, women on HRT and local vaginal Oestrogen, women using only local vaginal Oestrogen and women on any form of systemic Progesterogenic contraceptive. Black columns indicate women who answered “Yes” and the grey columns indicated the answers

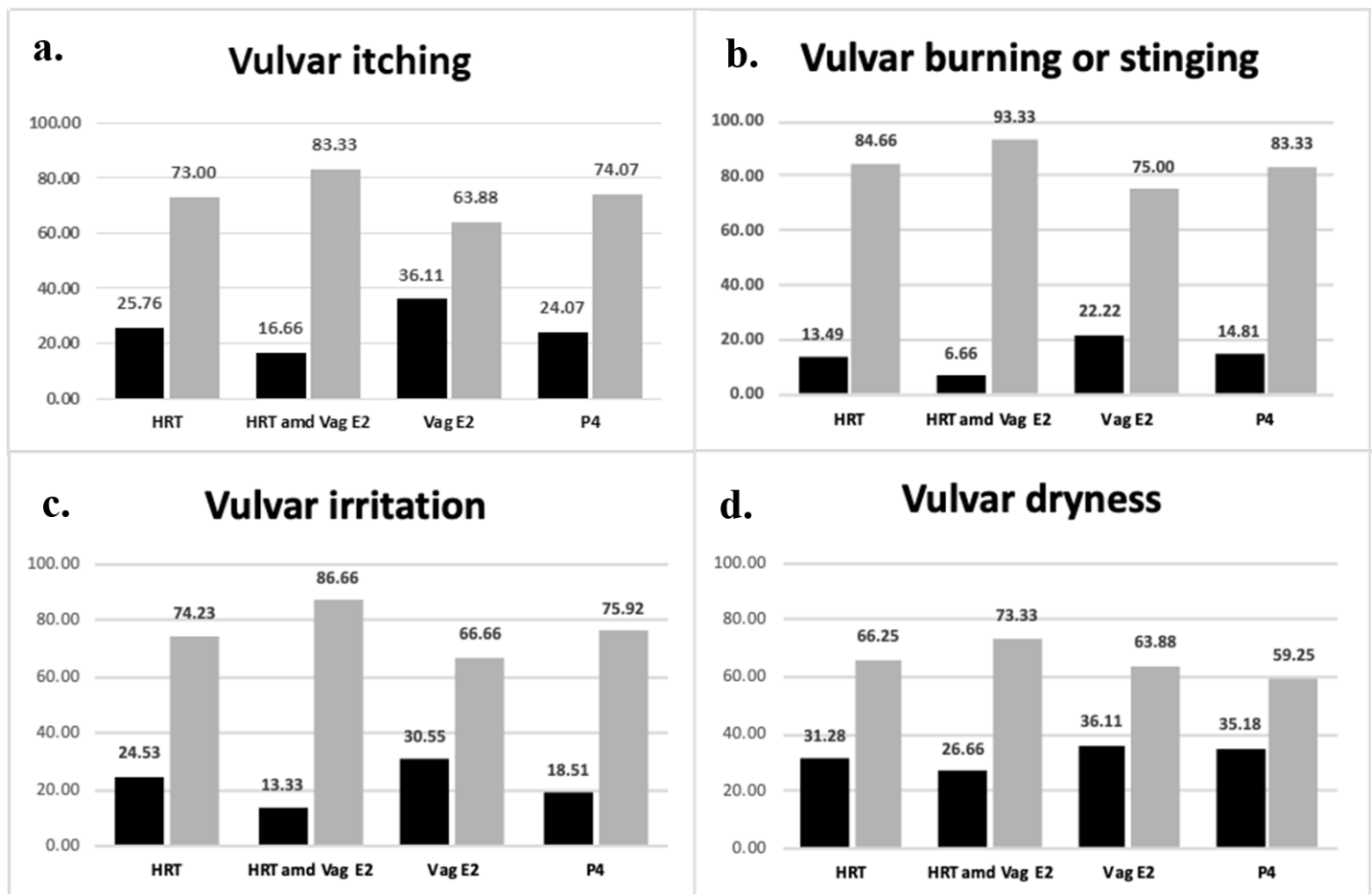
were “No”. Among all four groups, women on HRT and local Oestrogen were consistently the less symptomatic while women on local Oestrogen only showed higher incidents of GSM symptoms.

A similar pattern of symptoms was found in the analyses of the vulvar burning and stinging symptoms (Figure 1b.). Only 6.6% of women using systemic HRT and local oestrogen combination reported symptoms. Patients on systemic HRT only or progesterogenic preparations had similar incidence (13.49% and 14.81% respectively), whereas women on vaginal oestrogen showed a relatively worse incidence of 22.22%.

Likewise, with regards to vulvar irritation (Figure 1c.), women on combination of systemic HRT and local Oestrogen, had lowest incidence (13.33%), followed by women on Progesterone (18.5%) and systemic HRT only (24.5%), while participants on vaginal oestrogen showed the least favourable outcome (30.5%).

Vulvar dryness proved to be a more challenging symptom (Figure 1d.), as 26.6% of women on systemic HRT and local Oestrogen combination seemed to be suffering from it. In all the other groups, almost one third of women complained (HRT only :31.2%, Vaginal Oestrogen: 36.1% and Progesterogenic treatment: 35.1%).

**Figure 1:** Incidence of GSM symptoms in women on hormonal replacement.



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## Discussion

Our results showed some very interesting findings about the GSM and its management (Table 1). First, it is evident that vulvovaginal symptoms are very common in women irrespective of age or hormonal supplements. One in four women admitted complaining either of vulvar itching (26.7%), irritation (23.8%), frustration (26.7%) or finding it hard to show affection (23.3%). Similarly, one-third of our patients have been complaining of vulvar dryness (32.1%) and abnormal discharge (30.7%), and found their symptoms affecting their desire to be intimate (32.6%). GSM has a palpable effect on their social life (21.1%) as well, making them feel embarrassment (23.5%) and affecting the desire of social interaction (16.4%). Sexual relationship was affected (22%) due to pain (22.1%) and dryness during sexual activity (27.2%).

At first instant, it might seem contradictory how GSM is so common in women of reproductive age. Most of these symptoms were indeed more common in the menopausal women. However, GSM symptoms do not only affect postmenopausal women. 85% of women over the age of 40 suffer of vaginal dryness, while up to 77% experience itching, irritation, and 59% complain of dyspareunia [6, 7]. About vaginal dryness, specifically, the incidence rises gradually from 3% in women of reproductive age, to 4% of perimenopausal women, to 21% in early menopause and 47% three years afterwards [8, 9]. It seems GSM is very common, but despite the frequency, only 25% of sufferers seek medical advice [10] and no more than 52% of women express a negative impact on their quality of life [11].

The other interesting aspect of our results was related to the hormonal treatment our patients have been receiving in relation to their vulvovaginal symptoms. Women on HRT and vaginal Oestrogen showed persistently less vulvar complaints in comparison to the users of HRT only. Interestingly, women using only local Oestrogen preparations showed generally worse results in comparison to all the other groups. Progesterone users, showed to be in a better place, especially about vulvar burning, and stinging (83.3% were asymptomatic). It can be argued that all Progesterone users, being in a reproductive age, would have sufficient endogenous Oestrogen to protect them from GSM. Despite that interesting observation, Progesterone has never been studied or prescribed outside of the context of uterine protection in HRT [12] and so any benefits of its with regards to GSM are virtually unknown.

The one group of women with the least complaints in total were the post-menopausal ones on combined systemic and local hormonal treatment. This could be explained as there is adequate hormonal supply systemically and topically.

Oestrogen remains the first option for the management of GSM all over the globe, as its deficiency in the genitourinary system is behind the GSM [13]. Different local Oestrogen preparations are in use with palpable success, but it has to be taken into account that the management differs according to the expertise of the clinicians

and their experience in managing GSM [14]. Even a weak variant of Oestrogen, like Estriol can be helpful in managing GSM in low doses either on its own or in combination with Lactobacilli [15].

In women with history of breast cancer, where the disease is positive to gonadal hormone receptors, oestrogen is not the ideal and so alternative treatments are adopted [16]. Nevertheless, it is always possible to use of local oestrogen even in cancer survivors with positive hormone receptors, if the alternative methods fail, but after full counselling and explanation of the possible associated risks [17].

Androgens, especially in the form of vaginal dehydroepiandrosterone (DHEA) have shown to improve the symptoms of GSM, as androgen receptors are abundant in the female genitourinary system [18]. Vaginal DHEA preparation is a precursor steroid, converted into both oestrogens and androgens. Application to the vagina promotes the growth of superficial and intermediate cells and normalises vaginal pH and deem effective particularly with symptoms of dryness and dyspareunia [19, 20]. They are considered a second line of treatment after failed oestrogenic management [20, 21]. However, as DHEA has not been trialed on women who are survivors of breast cancer it is not a possible option for these patients [22].

Laser treatment, either in the form of fractional CO<sub>2</sub> laser or erbium: YAG laser, is another alternative non-pharmacological treatment for GSM [23] as well as urinary stress incontinence [24] that proved to be effective in women with history of breast cancer [25]. Despite its wide popularity clinically it has not gained FDA approval and its use is advise to be with caution [26].

An alternative method of treatment is Ospemifene, a selective-oestrogen-receptor-modulator (SERM) administered orally and found to be helpful in mild cases of GSM [27, 28] as well as with urinary symptoms of overactive bladder (OAB) [29]. Due to its systematic effect, it can be associated with hot flushes and muscle aches. and is contraindicated in women with arterial embolic disease [30].

It is obvious that there are numerous alternative options of managing GSM where clinicians can address the GSM symptoms according to the preferences and medical background of the patients.

With regards the Progesterone treatment, it has always been added to combined HRT for endometrial protection in women with intact uterus [21]. Several studies have examined the effect of progestogens on the different tissues either during the reproductive or menopausal states, but these studies did not include the vulvovaginal tissues [31]. Moreover, never before has Progesterone been assessed individually for the management of GSM as, unlike oestrogen and androgens, it has no significant functions on the vaginal [32]. Our findings suggest new research directions about the effect of the progestogens on the vulvovaginal region.



There are, of course, several limitations to our project. First, the cohort does not necessarily represent the entire female population. The participants attended the GOPD for various gynaecological reasons and only a small number of them were referred due to vulvar complaints. Adding to that, not all attendees completed the questionnaire and some volunteers ignored certain questions in it. Moreover, the questionnaire does not take into consideration any other comorbidities (e.g., Crohn's disease or Gluten enteropathy) or medications (e.g., antibiotics), that could be affecting the vulva and interacting with the hormonal supplements. Lastly, the symptoms enquired about are subjective; that means there is always a possibility of a variety in the severity of perceiving these symptoms among women of different ages, cultures, and health backgrounds.

Still, our findings suggest that vulvar complaints are underestimated, especially in premenopausal women, while it is evident that local vaginal oestrogen is not sufficient to address GSM in certain number of menopausal women.

Our findings suggest that additional research is required with regards to the different types of managements of GSM where women of reproductive ages also should be included.

## Conclusion

GSM is a common complaint in menopausal women but also affects women of reproductive age. Vulvovaginal symptoms are underestimated and their impact on the lives of women is undervalued. Local Oestrogen preparations can be helpful, but usually have better effect in combination with systemic hormonal treatment. Vaginal DHEA as second line treatment should be offered to suitable women who are not responding to vaginal oestrogens.

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