

Vaginal wind: A Silent but Common Symptom

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ABSTRACT

Objective: To estimate the frequency and associated factors of vaginal flatus “wind” among women attending gynecology clinic at King Abdulaziz university hospital.

Materials and methods: This prospective cohort study included women attending the gynecology clinic for routine pelvic gynecology examination and used a non-validated questionnaire to investigate the presence of vaginal wind and related factors.

Results: The cohort included 41 women who were interviewed by a physician after their verbal consent was obtained. Their demographic and clinical data were analyzed in relation to the presence or absence of vaginal wind.

Conclusion: Our findings indicate that vaginal wind is a common, but bothersome, symptom among sexually active women. It may be associated with pelvic organ prolapse

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INTRODUCTION

Vaginal wind, or vaginal flatus, is a common gynecological symptom that can cause shame and social distress among women.¹ It is defined as the involuntary passage of auditory air (gas) from the vagina in the absence of rectovaginal fistula; its etiology is unknown and, hence, the treatment options are unclear.² It is thought to be related to changes in vaginal volume that occur as a result of changes in position and intra-abdominal pressure³ and is often a result of underlying conditions such as pelvic floor dysfunction.

As observed in the case of incontinence, women are usually reluctant to seek advice for vaginal wind, and it is usually discovered only through direct and specific questions. As a result, it has been difficult to determine its prevalence and causative factors, although some studies have attempted to capture this information. For example, Krissi et al.³ reported that vaginal delivery was the most important risk factor for vaginal wind, but their findings were limited by the small sample size. In addition, Marjike et al.¹ conducted a cross-sectional study and found that the prevalence of vaginal wind in the general Dutch population was 12.8% and was related to several symptoms of pelvic floor dysfunction. Another study conducted by Veisi et al. on Iranian women concluded that the prevalence of vaginal wind was 20% and was associated with young age, low body mass index, and vaginal delivery^[4]. Further, a prospective cohort study conducted by Miranne et al. in 2015 reported that vaginal wind affects as much as 69% of women with pelvic floor disorders, but vaginal wind was not specifically associated with pelvic organ prolapse (POP).⁵ Thus, the prevalence of vaginal wind seems to be high among women with pelvic floor dysfunction.

In the context of Saudi Arabia, a recent cross-sectional study reported that the prevalence of vaginal wind was 32%, and it was associated with older age, greater parity, assisted birth, and post-menopausal status.⁶ Similarly, another study on Saudi Arabian women found a prevalence rate of 30% and reported that vaginal wind was a significant indicator of vaginal laxity.⁷ However, the focus of these studies was POP and vaginal laxity, and there is no information specifically related to the prevalence and associated factors of vaginal wind in Saudi Arabia. Therefore, the aim of the present study was to determine how common vaginal wind is among women attending the general gynecology clinic, whether it affects their quality of life, and the associated risk factors or contributing conditions.

MATERIALS AND METHODS

Ethics and Design

This prospective cohort study included 41 women attending the gynecology clinic at King Abdulaziz university hospital in Jeddah city for routine pelvic gynecology examination. We included a sample of

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women who were sexually active and between the ages of 19 and 59 years, and we excluded any women with a history of or with current rectovaginal fistula. Their demographic and clinical data were obtained from their hospital records. The study objectives and method were briefly explained to the participants to obtain their verbal consent. Once their consent was obtained, an interview and clinical examination were carried out. They were interviewed by a physician with the help of a non-validated questionnaire that contained questions about the occurrence and frequency of vaginal wind and related factors. The findings of their physical examination were recorded.

This study received the approval of the research ethics committee of the university.

QUESTIONNAIRE

1. CASE NO.: -----, MR no.: -----, Age: -----, G---P-----, Smoking -----, BMI: -----
2. PMHX: -----, PSHX: -----
3. Have you had any symptoms of POP or incontinence?

4. Have you ever experienced vaginal wind? _____ Yes
_____ NO
5. When did you first notice it? _____
6. How often do you notice it? _____ times / week
7. With which activities do you experience vaginal wind?
8. How much does this bother you? Not at all (0), somewhat (1), moderately (2), quite a bit (3)
9. How much does this bother your partner? Not at all (0), somewhat (1), moderately (2), quite a bit (3)
10. Does vaginal wind negatively affect your life? Not at all (0), somewhat (1), moderately (2), quite a bit (3)
11. Have you tried any treatments for vaginal wind? ___

EXAMINATION: -----Vulva and Vagina-----
--POP-----G.H. -----

Incontinence-----
-Others-----

In the questionnaire above, PMHX refers to past medical history, PSHX refers to past surgical history, and GH refers to genital hiatus.

Statistical Analysis

The demographic and clinical data of the participants were analyzed in relation to presence or absence of vaginal wind. IBM SPSS version 23 was used for all the statistical analyses. Simple descriptive statistics were used to define the characteristics of the study variables, with categorical variables presented as counts and percentages and continuous variables presented as mean and standard deviations. The chi-square test was used to analyze categorical variables, and an independent *t*-test was used to analyze continuous variables. These tests were done under the assumption of normal distribution. Significance was set at $p < 0.05$.

RESULTS

Demographic and clinical characteristics

The mean age of the cohort was 33 years, and the parity ranged from nulliparous to P8. Smoking was uncommon, as

more than 97% of the participants were non-smokers. Further, 50% had obesity, and 14.6% each had hypertension and hypothyroidism (Table 1). With regard to their surgical history, 56.1% had delivered via cesarean section. There were no other remarkable demographic or clinical characteristics.

Findings about Vaginal Wind from the Questionnaire

More than 50% of the study population reported experiencing vaginal wind, with 25% experiencing it once a week and 35% experiencing it once a month (Table 3). With regard to the related factors, more than 50% reported that they typically or occasionally experienced vaginal wind after vaginal intercourse. However, the majority of the participants reported that neither they themselves (65%) nor their partners (65%) were bothered by vaginal wind. Further, the majority reported that it did not affect their quality of life (70%) or level of sexual satisfaction (85%). Only one patient reported that they had attempted treatment with posterior repair, but the treatment had failed.

A large proportion of the patients reported that they had not talked to their physicians about the issue (97.2%), and similarly, 97.2% reported that their physicians had not discussed the issue either. However, 88.6% stated that they would like their physicians to ask them about whether they experienced vaginal wind.

Findings of the Physical Examination

Physical examination of the participants revealed that 8 had POP (6 with cystocele and 2 with rectocele) and 7 had GH (5 had a wide hiatus and 2 required posterior repair). In addition, 2 patients reported stress incontinence. There were no other remarkable findings.

Factors Associated with the Occurrence of Vaginal Wind

The association of age, gravidity, parity, previous abortion, BMI, POP, and GH with the occurrence of vaginal wind was examined, and the findings showed that only POP was significantly associated with this symptom

Table 1: Characteristics of the study cohort (N = 41)

Demographics	Min	Max	Mean	SD
Age	19	59	33.86	10.0
Gravidity	1	8	4.27	2.5
Parity	0	9	2.79	2.3
Abortion	0	4	0.58	1.0
BMI	19.50	57.08	32.03	9.3
Count	%			
41	100.0			
Smoking	1		2.8	
	35	97.2		
BMI	5		25.0	
	9		25.0	
	9	25.0		
	18	50.0		
PMHX	5			
			6	14.6
		6	14.6	

Demographics		Min	Max	Mean	SD
	GDM			3	7.3
	DM			3	7.3
	AP repair			1	2.4
	Epilepsy			1	2.4
	HBV			1	2.4
	Hodgkin lymphoma			1	2.4
	Polycystic ovary			1	2.4
	SCA, g6pd deficiency			1	2.4
	Subarachnoid hemorrhage, Cerebral venous thrombosis			1	2.4
	Thyroid CA, Endocarditis			1	2.4

The percentages presented in this table are based on a total number of 41 cases.

PSHX	CS	Count	%
	Tonsillectomy	2	4.9
	Thyroidectomy	2	4.9
	Cholecystectomy	3	7.3
	Appendectomy	2	4.9
	Hystere ctomy	2	4.9
	Vaginal wall repair	2	4.9
	Other surgery	1	2.4

The percentages presented in this table are based on a total number of 41 cases.

HTN = hypertension, GDM = Gestational diabetes, DM = Diabetes mellitus, AP repair = Anterior-posterior repair , HBV = Hepatitis B virus , SCA = sickle cell anemia , CA =Cancer, CS = cesarean section

Table 2: Prevalence of symptoms of pelvic floor dysfunction

Variables	Count	%
Total	41	100.0
Symptoms of incontinence	Urinary frequency	4 9.75
	Urge incontinence	1 2.4
	Stress incontinence	3 7.3
	No	33 80.4

Table 3: Findings from the questionnaire on vaginal wind

Variables	Count	%
Total	41	100.0
Have you ever experienced vaginal wind?	Yes	23 56.1
	No	18 43.9
Total		100.0
When did you first notice it?	<1 year	3 13
	1 years ago	3 13
	2 years ago	4 17.3
	3 years ago	2 8.6
	4 years ago	5 21.7
	5 years ago	3 13
	>5years ago	3 13
How often do you notice it? (frequency)	Once a year	9 39.1
	Once a month	8 34.7
	Once a week	6 26
Total	23	100.0
Vaginal wind with Intercourse	Never	5 21.7
	Seldom	4 17.3
	Sometimes	8 34.7
	Usually	6 26

Variables	Count	%
Vaginal wind with Digital stimulation	Never	15 65.2
	Sometimes	4 17.3
	Usually	4 17.3
Vaginal wind with Gagging	Never	18 78.2
	Seldom	5 21.7
Vaginal wind with Sit ups	Never	9 39.1
	Seldom	5 21.7
	Sometimes	4 17.3
Total	Usually	5 21.7
	Not at all	13 65.0
	How much does this bother you?	Somewhat 5.0
How much this bother your partner/significant other?	Moderately	15.0
	Quite a bit	15.0
	Not at all	13 65.0
Do you feel like vaginal wind negatively affects your quality of life?	Somewhat	5.0
	Moderately	5.0
	Quite a bit	15.0
Do you feel like vaginal wind negatively affects your sexual satisfaction?	Not at all	17 85.0
	Somewhat	5.0
	Moderately	5.0
Total	Quite a bit	5.0

Variables	Count	%
Total	41	100.0
Have you tried any treatments and what treatments have you tried?	Posterior repair	1 10.0
	Pelvic exercise	13 37.7

Variables	Count	%
Total	35	100.0
Have you told your doctor about vaginal wind?	No	35 97.2

Variables	Count	%
Total	41	100.0
Has your doctor asked you about vaginal wind?	Yes	6 2.8
	No	35 97.2
Total	35	100.0
If no, would you like him/her to?	Yes	31 88.6
	No	4 11.4

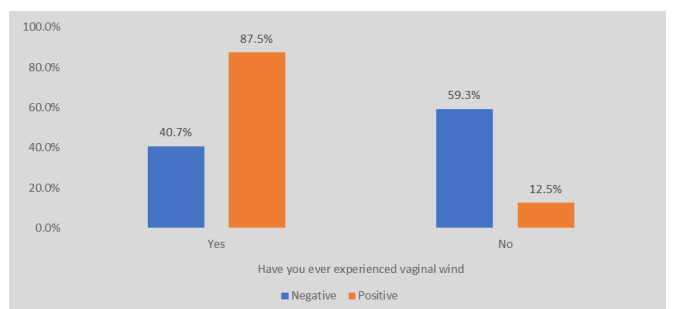


Fig. 1: Percentage of women with pelvic organ prolapse according to whether they experienced vaginal wind

Table 4: Results of physical examination

Variables	Count	%
Total	41	100.0
Vulva and vagina	Normal	34
	Atrophic	2
	Missing data	5
Pelvic organs prolapse	No	27
	Rectocele	2
	Cystocele	6
	Uterine prolapse (stage 1)	6
Genital Hiatus	Wide hiatus	18
	Normal	23
Incontinence	Positive	1
	Negative	40

Table 5: Association between patient characteristics and occurrence of vaginal wind

Demographics	Total Yes	Have you ever experienced vaginal wind		P value
		No		
Age (years)	33.86 ± 10.0	34.80 ± 10.5	32.76 ± 9.7	0.547
Gravida	4.27 ± 2.5	4.83 ± 3.1	3.60 ± 1.7	0.443
Parity	2.79 ± 2.3	2.90 ± 2.4	2.67 ± 2.2	0.759
Abortion	0.58 ± 1.0	0.50 ± 1.1	0.67 ± 1.0	0.616
BMI	32.03 ± 9.3	34.19 ± 10.0	29.61 ± 8.0	0.141
Total	36	19 (52.8%)	17 (47.2%)	N/A
BMI	Normal weight	9	6 (66.7%)	0.222
	Overweight	9	5 (55.6%)	
	Obesity	18	12 (66.7%)	

Table 6: Association between physical examination results and occurrence of vaginal wind

Variables	Total	Have you ever experienced vaginal wind		p-value
		Yes	No	
POP	Negative	27	11 (40.7%)	0.020 ^a
	Positive	8	7 (87.5%)	
GH	Negative	29	13 (44.8%)	0.052
	Positive	7	6 (85.7%)	

^asignificant at p < 0.05 according to the chi-square test

DISCUSSION

The present study reports the prevalence, causes, and factors associated with vaginal wind among Saudi Arabian women. The prevalence was 56.1%, which is much higher than the prevalence of around 30% reported by other studies conducted in Saudi Arabia. [6,7] The present study cohort included only sexually active women, and vaginal wind is frequently associated with sexual activity. This may explain the high prevalence rate in our cohort. However, the reported prevalence globally is quite varied and is considered to range from 1% to 69%. [8] As this symptom is not considered during standard gynecological examinations or consultations, it is difficult to obtain data related to it. This is probably why the reported prevalence varies across such a wide range.

In the present study, the majority of the women reported experiencing vaginal wind during intercourse, and similar findings have been reported by previous studies, too. [5,9,10] However, a study on women who were older than 45 years reported that there was no significant difference in the prevalence of vaginal wind between sexually active and sexually inactive women. [1] Therefore, the association between vaginal wind and sexual activity may only be present in younger women who are sexually active. With regard to the frequency of the symptom, 35% experienced it once a month and 25% experienced it once a week. These percentages are similar to those reported in a previous study, [11] but they are much lower than the frequency reported in another study in which the participants had a much higher mean age than the present cohort. [5] Thus, the frequency of vaginal wind could be age-related, but this can only be confirmed with a larger scale study.

With regard to how vaginal wind affected their lives, the majority of the women in the present cohort reported that neither they nor their partners were bothered by it. The majority of them also stated that it did not affect their quality of life or level of sexual satisfaction. In agreement with our findings, other studies have reported that vaginal wind was considered a little bothersome, [1,10] somewhat bothersome, [5] or moderately bothersome [9] by women of various age groups who experienced it. Moreover, a previous study reported that the majority of women did not feel that it negatively affected their quality of life, [5] while a literature review stated that it does

decrease quality of life.^[8] None of the studies have reported about how vaginal wind might affect sexual satisfaction, so it is difficult to discuss the validity of our findings in this regard. Nonetheless, it seems that vaginal wind is not a bothersome symptom and does not severely affect the level of sexual satisfaction experienced, but it could affect quality of life.

The association of several demographic and clinical characteristics with vaginal wind was examined, but only POP was found to have a significant association in this study. A previous study has also reported that POP is associated with vaginal wind.^[11] However, other studies have reported that while vaginal wind is associated with pelvic floor dysfunction,^[1,5] it may not be specifically related to POP. The difference could be attributed to differences in the mean age of the participants and the lack of a standard questionnaire for obtaining data on vaginal wind. Some other factors that have been reported to be associated with vaginal wind are vaginal delivery,^[11] parity,^[1,6] and stress incontinence,^[1] but none of these factors were significant according to our findings. Thus, the factors associated with vaginal wind are still unclear and need to be explored further through larger scale studies that use a standardized questionnaire.

Another interesting finding that emerged from our study was that in the majority of cases, neither the physician nor the patient talked about this symptom. Importantly, most of the women stated that they would like their physicians to ask them about this symptom. None of the studies published so far have presented this perspective, so it might be an interesting avenue to explore. Based on the findings, we recommend that vaginal wind be considered during routine checkups and consultations, especially because it could be associated with more serious conditions such as pelvic floor dysfunction.

There is no known treatment that specifically targets vaginal wind, but the underlying causes could be managed through pelvic floor exercises, tampons, pessaries, surgery and laser. In our cohort, one patient with POP underwent posterior surgical repair, but it did not improve the symptom. None of the other patients reported undergoing treatment. Similar to our case, Krissi et al.^[3] reported that neither posterior repair nor pelvic floor exercises were beneficial in their case series of six patients. A recent study that compared pessary, pelvic floor physiotherapy, and surgical correction reported that pessary was more effective than the other two methods and resulted in a significant improvement in quality of life.^[12] However, as the use of a pessary can cause discomfort during certain activities, women need to be properly trained on how to remove and insert it back when necessary.¹³

The limitations of this study include the small sample size, the inclusion of women with different pelvic floor disorders, and the use of a non-validated questionnaire.

CONCLUSION

Vaginal wind is a common, but bothersome, symptom among sexually active women. The present findings indicate that it may be associated with POP, but larger cohort studies with a validated questionnaire and standardized pelvic organ assessment tools are required to further explore and confirm the association of pelvic floor dysfunction disorders with vaginal wind and related risk factors. Such data can help clinicians make decisions about optimum treatment strategies.

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