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The Evaluation of Uncommon Symptoms of Bacterial Vaginitis in Women Referred to Sarem Women's Hospital

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ABSTRACT

Introduction: The vagina of an adult woman is covered with a layer of strong epithelium called the squamous epithelium, which is completely resistant to damage. The natural physiological secretions of women that are produced during the menstrual cycle and under the influence of estrogen and progesterone hormones are different in terms of amount and appearance. Moreover, the reduction of lactobacilli in the presence of bacterial vaginosis changes the normal state of the vaginal ecosystem, which actually reduces the acidic pH of the vagina. Vaginal secretions become alkaline in the presence of this bacteria and a significant change occurs in the smell of secretions. Thin, white, and homogeneous secretions sticking to the vaginal wall, as well as the absence of any inflammation in the vaginal area, are among the common symptoms of bacterial vaginosis. Women feel more smell during intercourse and menstruation due to the alkalinity of semen and menstrual blood. In this study, we evaluated the uncommon symptoms which happened for women during bacterial vaginitis.

Material and methods: In a cross-sectional study, we used a comprehensive questionnaire that included different aspects of women's life such as socio-demographic, lifestyle, past medical history, and current disease symptoms. The questionnaires were filled out by 39 women who were referred to the Sarem Women's Hospital (Tehran, Iran) from April to July 2022 with a definite diagnosis of bacterial vaginitis.

Results: A total of 39 women participated in this study, of all, 5.1% had warts, and 20.5% were allocated to Bacterial infection. Fungal infection with 25.6% was the leading cause of vaginitis in our study. Furthermore, hair loss with 33.3% was the main uncommon symptom among participants. In this study, there were no prominent uncommon symptoms.

Conclusion: Overall, in this study, there were no prominent uncommon symptoms due to bacterial vaginitis it should be mentioned that the main focus of this study was the uncommon symptoms of vaginitis. Further studies are recommended to highlight the uncommon symptoms of vaginitis in the larger population.

Keywords: Bacterial Vaginitis; Symptoms; Uncommon; Cross-Sectional Study.

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بررسی علائم غیر شایع واژینیت باکتریایی در زنان مراجعه کننده به بیمارستان زنان صارم

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چکیده

مقدمه: واژن یک زن بالغ با لایه ای از اپیتلیوم قوی به نام اپیتلیوم سنگفرشی پوشیده شده است که کاملاً در برابر آسیب مقاوم می باشد. ترشحات فیزیولوژیکی طبیعی زنانی که در دوره ی قاعدگی و تحت تأثیر هورمون های استروژن و پروژسترون تولید می شوند، از نظر مقدار و ظاهر متفاوت هستند. علاوه بر این، کاهش لاکتوباسیل ها در حضور واژینوزیس باکتریایی، وضعیت طبیعی اکوسیستم واژن را تغییر می دهد که در واقع سبب کاهش PH اسیدی واژن می شود. ترشحات واژن در حضور این باکتری قلیایی شده و تغییر قابل توجهی در بوی ترشحات ایجاد می شود. چسبیدن ترشحات نازک، سفید و همگن به دیواره واژن و همچنین عدم وجود هرگونه التهاب در ناحیه ی آن از علائم شایع واژینوز باکتریایی هستند. زنان به دلیل قلیایی بودن مایع منی و خون قاعدگی، در هنگام آمیزش و قاعدگی بوی بیشتری احساس می کنند. در این مطالعه، ما علائم غیرمعمولی را که در زنان در حین واژینیت باکتریایی رخ داده بود، ارزیابی کردیم.

مواد و روش ها: در یک مطالعه ی مقطعی، از پرسشنامه ی جامعی استفاده کردیم که شامل ابعاد مختلف زندگی زنان از قبیل جمعیت شناختی، سبک زندگی، سابقه ی پزشکی گذشته و علائم بیماری فعلی بود. این پرسشنامه توسط تعداد ۳۹ نفر خانم مراجعه کننده به بیمارستان فوق تخصصی صارم (تهران، ایران) از فروردین تا تیر ۱۴۰۱ با تشخیص قطعی واژینیت باکتریایی تکمیل شد.

نتایج: در مجموع ۳۹ نفر خانم در این مطالعه شرکت کردند که از این تعداد ۵،۱ درصد زگیل و ۲۰،۵ درصد به عفونت باکتریایی اختصاص داشتند. عفونت قارچی با ۲۵،۶ درصد علت اصلی واژینیت در مطالعه ما بود. علاوه بر این، ریزش مو با ۳۳،۳ درصد علامت اصلی غیر معمول در بین شرکت کنندگان گزارش شد. در این مطالعه علامت غیر معمول برجسته ای وجود نداشت.

نتیجه گیری: در مجموع، در این مطالعه علائم غیرمعمول بارز واژینیت باکتریایی وجود نداشت. مطالعات بیشتر برای برجسته کردن علائم غیرمعمول واژینیت در جمعیت بزرگتر توصیه می شود.

کلید واژه‌ها: واژینیت باکتریایی؛ علائم؛ غیر معمول؛ مطالعه ی مقطعی.

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Introduction

Vaginitis is the inflammation or infection of the vagina which is one of the most common reasons for women to visit their primary care providers around the world[1]. The prevalence of this gynecological disease varies living environment, personal habits, economic status, and religious belief[2]. This infection can present with different symptoms including irritation, burning, itching, dysuria, dyspareunia, and changes in vaginal discharge[3]. The most prevalent cause of vaginitis is bacterial vaginosis (BV) followed by vulvovaginal candidiasis (VVC) and trichomoniasis (TV)[1]. Among these three, BV is the leading cause of vaginitis; however, it can be asymptomatic in some cases. Moreover, serious health issues such as the increased risk of interacting with sexually transmitted infections (STIs), immunodeficiency virus, and the high possibility of preterm birth can be experienced by both symptomatic and asymptomatic patients[4]. The reproductive cycle of each woman can lead to some alterations in the natural vaginal microbiome. The vaginal microbiome is influenced by the command of lactobacilli, low PH, and the effects of estrogen on vaginal epithelial cells[5]. The microbiota of the vagina plays a significant role in women's health[6]. The main bacterial population in the vaginal cavity which is about 80% is belongs to the Lactobacillus spp. These groups confront the commencement of the infection with the production of lactic acid, hydrogen peroxide as well as bacteriocin. The imbalance in each normal vaginal bacterial flora can result in the creation of some dangerous infections[7]. Most researchers have come to the conclusion that by the lack of vaginal lactobacilli, the polymicrobial disorder of the vaginal microbiome which is known as bacterial vaginosis can be characterized[5]. The etiology of this infection which is increased in the

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childbearing age of women is still unknown. Antibiotic therapy for patients with BV has usually faced failure during six-month follow-up[8]. There are a wide range of risk factors for women to acquire BV, for instance, multiple sexual partners or a new one, smoking, and intra-uterine devices. Furthermore, the rate of getting infected with sexually transmitted infections (STIs), HIV as well as HSV in women with BV is greatly higher than in BV free women[9]. The dominant characteristic of BV is milky, smelly, and homogenous vaginal discharge. In addition, in the absence of vaginal inflammation and neutrophil, the disorder of BV is increased. The number of inflammatory cytokines is high in vaginal discharge of the patients with BV.

Bacterial vaginosis has a fishy smell due to the release of polyamines and organic acid on alkalinization of the vaginal fluid. In comparison with the normal flora of the vagina which is lactobacilli-dominated, the load of polymicrobial is raised up to 1000; therefore, the vaginal ecosystem is completely changed by the appearance of the bacterial vaginosis[5]. In order to specify whether BV is sexually transmitted or not, the symptomatic counterpart should be described in men; however, the treatment of the male sexual partner in some studies demonstrates that it does not have sufficient power to prove the role of the male partner in the recurrence of BV in women[3, 5]. The prevalence of BV in women who have sex with women (WSW) is higher than in those who have a single partner[3]. Recurrence is very common in women with bacterial vaginosis and can have considerable frustration for them, despite the effective treatment which exists. Therefore, women should encourage returning for treatment if recurrence happened. Although women have an initial response to therapy, there is an estimation which Thirty percent of them experience the recurrence of the bacteria within 3 months[3, 4, 9]. In this study, we evaluated the uncommon symptoms which happened for women during bacterial vaginitis.

Materials and Methods

In this cross-sectional study, we used a comprehensive questionnaire that included different aspects of women's life such as socio-demographic, lifestyle, past medical history, current disease symptoms, and personal hygiene. The questionnaires were filled out by 39 women who were referred to the Sarem Women's Hospital (Tehran, Iran) from April to July 2022 with a definite diagnosis of bacterial vaginitis. Written consent was obtained from the patients and the data were analyzed by SPSS (ver. 23).

Results

Overview of the socio-demographic of participant

A total of 39 women were examined for their vaginitis problem in Sarem Hospital. The majority of participants' age were 37 years. The mean±SD of the participant's age was 33.74±7.2 (range of 23-60 years). Most of the women who attended this study were married 39 (59.0%) followed by single and divorced participants 10 (25.6%) and 6 (13.4%) respectively. Moreover, the majority of the study participants had a bachelor's degree 26 (66.7%) while the women who had a diploma and master's degree were 7 (17.9%) and 6 (15.4%) correspondingly. The years of marriage in this study were critical we had 10 persons (25.6%) who were single; however, 1(2.6%) had been married for forty years. It is interesting to mention that 79.5% of participants had been married for more than 12 years. In addition, among these individuals 27(69.2%) had no child whereas, 1(2.6%) had four children.

The age of sexual activity among participants varied. The impressive one was a woman who started her sexual activity at the age of 14 (1=2.6%). On the other hand, 61.5% of participants had sexual activity under the age of 26 years old (Chart 3). Moreover, among 39 participants in this study, only 3 (7.7%) had high-risk sexual activity; however, 36 (92.3%) of them had no experience of these kinds of sex. Therefore, it was logical that we faced the next result which was about the type of sexual intercourse. 31 (79.5%) of women had vaginal intercourse followed by only one person (2.6%) who had oral and 7 women who had all types of intercourse. In addition, 15 (38.5%) of participants did not use protection in their sexual activity, while, 24 (61.5%) of women cared about protection. The male condom had great importance among women by 56.4% which was 22 persons. After this type of protection, 16 (41.0%) women used no protection and just one (2.6%) of them used oral contraceptive pill (OCP). The number of pregnancies was another factor that could affect our study. 24 (61.5%) had no pregnancies in their life, while, one of the participants had experienced four pregnancies during her life (Table1). Furthermore, there were 32 (82.1%) women in this study who did not have sexual activity after infection, whereas, 7 (17.9%) persons had this activity.

Table 1: Number of pregnancies.

Question		Frequency	Percent
Number of Pregnancies	0	24	61.5
	1	5	12.8
	2	8	20.5
	3	1	2.6
	4	1	2.6
	Total	39	100.0

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The history of drug use among the participants was significant. There was only 1 (2.6%) woman who used weed and the other 38 (97.4%) had no history. In addition, 31 (79.5%), as well as 23 (59.0%) women, had no history of smoking and alcohol usage.

Medical History of Participants

The other factor evaluated in this study was the history of STD among participants. 20 (51.3%) individuals had experienced different types of STDs in their life, while 19 (48.7%) did not have any sexually transmitted diseases (Table 2). Among all women in this study, 56.4% did not use any antibiotics during their infections but 43.6% used different kinds of antibiotics. Also, there were other medical histories of participants that we evaluated in our study (Table 3).

Table 2: Different types of sexual transmitted disease (STD).

Types of STD	Frequency	Percent
Wart	2	5.1
Bacterial Infection	8	20.5
Fungal Infection	10	25.6
Nothing	19	48.7
Total	39	100.0

Table 3: Medical history of participants

Medical History	Frequency	Percent
Eczema	1	2.6
Endometriosis	1	2.6
Thyroid Disease	3	7.7
Autoimmune Disease	1	2.6
Cardiovascular Disease	1	2.6
Gastrointestinal Disease	1	2.6
Ovarian Cyst	14	35.9
Migraine	1	2.6
Nothing	16	41.0
Total	39	100.0

Menstruation is the most important period for each woman. Therefore, in this study, the participants were evaluated for their kinds, pain, how much they discharge blood, and if they have any discharge after their sexual activity (Table 4).

Table 4: Different States of Menstruation.

Question	Mild	Normal	Severe	Nothing	Total
Menstrual	23.1	48.7	28.2	-	100
Pain	2.6	79.5	17.9	-	100
Menstrual bleeding Bleeding after Sex	5.1	5.1	-	89.7	100

There are various types of common symptoms for women who suffer from vaginitis including abnormal vaginal discharge, grayish-white discharge with a fishy odor, Thick white, clumpy discharge, and greenish-yellow discharge with the frothy condition, etc. We evaluated these common symptoms and the results were shown in Table 5.

Table 5: Common symptoms in vaginitis.

Question	Yes (%)	No (%)
Abnormal Vaginal Discharge	25.6	74.4
Grayish White Discharge with a Fishy Odor	7.7	92.3
Thick, white, clumpy discharge	23.1	76.9
Greenish Yellow Discharge with Frothy Condition	10.3	89.7
Dysuria	15.4	84.6
Frequent Urination	10.3	89.7
Pain in Perineum	5.1	94.9
Vaginal Itching	17.9	82.1
Pain During Sex	25.6	74.4
Bleeding during Sex and after	-	100.0
Vaginal Inflammation	10.3	89.7
Genital Injury	7.7	92.3
Bad Vaginal Odor During Sex	12.8	87.2
Bad Vaginal Odor During Menstruation	17.9	82.1
Taking Antibiotics	15.4	84.6

Uncommon Symptoms of Vaginitis

The most important part of this study was evaluating the uncommon symptoms in which many participants may get involved during their infections (Table 6).

Table 6: Uncommon symptoms of vaginitis.

Symptoms	Yes (%)	No (%)
Depression	20.5	79.5
Fatigue	17.9	81.1
Loss of Memory	0.0	100.0
Anxiety	17.9	82.1
Sleep Deprivation	25.6	74.4
Hair Loss	33.3	66.7
Aggression Feeling	12.8	87.2
Numbness in Limbs	12.8	87.2
Eye Burning and Redness	7.7	92.3
Runny Nose	5.1	94.9
Dyspnea	10.3	89.7
Shortness of Breath	2.6	97.4
Chronic Cough	10.3	89.7
Postnasal Drip	7.7	92.3
Chest Pain	0.0	100.0
Mouth Ulcer	5.1	94.9
Bad Breath	0.0	100.0
Fever	2.6	97.4
Nausea	12.8	87.2
Constipation	2.6	97.4
Dysuria	2.6	97.4
Halitosis	7.7	92.3
Dysuria	15.4	84.6
Vaginal Swelling	0.0	100.0
Vaginal Redness	0.0	100.0
Genital Ulcer	7.7	92.3
Bleeding During Intercourse	0.0	100.0
Peripheral Edema & Bruise	0.0	100.0

There were other factors that we included in our study which were related to personal hygiene. The most interesting one was changing underwear which we found 2 (5.1%) women who did not change their underwear daily; however, 37 (94.9%) of participants were doing it well (Table 7).

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Table 7: Personal Hygiene.

Question	Yes (%)	No (%)
Changing Underwear	94.9	5.1
Use of Tight and Nylon Clothes	15.4	84.6
Sex During Infection	25.6	74.4
Use of Condoms During Infection	59.0	41.0
Periodic Health	74.4	25.6
Examination Washing	79.5	20.5
Vagina Before Sex Washing	87.2	12.8
Vagina After Sex Peeing After Sex	87.2	12.8
Washing Vagina with Sanitary Gel	59.0	41.0

Discussion

The first step in changing people's health behavior is obtaining sufficient information about their health conditions [10]. The current study on vaginal infection among women who refer to the Sarem Hospital, Tehran, Iran, indicates that the proportion of fungal infection is more than bacterial infection and warts. Almost half of the participants had a single type of infection, while the other half had no sign of any sexual infections. These findings demonstrate the necessity of looking deeply into other etiology of vaginitis. According to the statistics, Bacterial Vaginosis (BV) is the leading cause of vaginitis followed by candidiasis[8, 11-13], while, in our study, these findings are completely vis-versa. The differences between our study and other studies depend on various factors such as personal hygiene practices, socioeconomic and culture of the participants. The prevalence of B.V in our study is relatively near to the other studies ranging from 26% to 34%[11, 14-16], while in our study, we obtained a frequency of 20.5%. Moreover, in our study, the prevalence of fungal infections has a high level of prevalence. This noticeable variation between different studies can be explained in this way in which the population and the methods of detection of vaginitis were different. Wart, was the least observed which we considered in our study. According to the study which was done in Nigeria showed that the prevalence of warts among women who participated was 44%[17]; however, we observed only 2 (5.1%) individuals who suffered from this infection. These differences may due to the different lifestyles, cultures, marital statuses, ages, and the rate of sexual activity that the participants had. The main uncommon symptom which we observed in our study was hair loss with 33.3% that of course may be caused by other reasons such as genetic. Whereas, mouth ulcers, fever, genital ulcers, bleeding during intercourse, peripheral edema, and bruise did not observe in any participants who had vaginitis in our study. Overall, this study was done with only 39 participants as well as limited data related to vaginitis. The reason for different observations was due to the method of the questionnaire which we used to obtain the results. It can be justified that other methods such as prolonged evaluation (such as cohort study), more participants, other data collection methods (such as interview), and the multicenter participation would have different results.

Conclusion

Overall, in this study, there were no prominent uncommon symptoms due to bacterial vaginitis it should be mentioned that the main focus of this study was the uncommon symptoms of vaginitis. Further studies are recommended to highlight the uncommon symptoms of vaginitis in the larger population.

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