

Vaginitis in Iraqi Women through A Cross-Sectional Study of 90 Patients

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Abstract: Background: Vaginitis was diagnosed most frequently in female reproductive system cases, around 90% of which were due to bacterial vaginosis, vulvovaginal candidiasis, or trichomoniasis. Objective: Our study was interested to assess the health findings of 90 Iraqi women who had vaginitis. Patients and methods: A study was conducted for female patients with vaginitis in obstetrics and gynaecology outpatient clinics in different hospitals in Iraq between 7 July 2022 and 19 August 2023. A total of 90 women were diagnosed and underwent medical examinations to determine the degree of severity of vaginitis and the extent of its impact on the patient's quality of life. Results: The study found that 85.56% of women aged 25 to 30 years had suffered from vaginitis. The most common symptoms were vaginal soreness (90.0%), dysuria (94.44%), and burning sensation (91.11%), which was caused by bacterial infections in 36 women and yeast infections in 28 women. The classification of vaginitis into mild, moderate, and severe categories yielded the following results: nine cases of mild, 32 cases of moderate, and 49 cases of severe. The most improved domains were emotional well-being (64.77 ± 14.93), role limitation due to physical problems (59.45 ± 15.83), and physical functioning (56.8 ± 13.49). Conclusion: The study's findings showed that vaginal infections had an essential impact on patient's daily routines and that there is an association between vaginitis and health-related quality of life in women that were diagnosed with the disease.

Keywords: Vaginitis; Types of infections; Symptoms; Vaginal discharges; and Quality of life.

INTRODUCTION

Vaginal discharge syndrome or vaginitis is a vaginal infectious process characterized by the following symptoms: vaginal discharge, burning, fetid, irritation, vulvar itching, dyspareunia, and dysuria, secondary to bacterial, fungal, and/or parasitic infections (exogenous or endogenous); as a consequence of an environmental imbalance in the vaginal ecosystem (Sobel, J. D. 2000; Mashburn, J. 2006).

In women who seek medical attention, about 11-38.4% are associated with symptoms related to vaginal discharge syndrome (vaginitis), with bacterial vaginosis (BV), vulvovaginal candidiasis (VVC), and *Trichomonas vaginalis* infection (TV) being the most common infections in women of reproductive age (Donders, G. G. 2007; Donders, G. G. *et al.*, 2002).

It often becomes a challenge to distinguish between an abnormal and a normal flow, both from the perspective of the patient and the health professional; the difference is that normal physiological variations occur due to biological or hormonal changes (Smith, P. 1993; Carr, P. L. *et al.*, 1998).

BV is responsible for 40-50% of cases of vaginal discharge syndrome (vaginitis), followed by VVC with 20-25% and VT with 15-20% of cases. Most women have at least one episode of vaginitis during their lifetime, making it the most common gynecological diagnosis in primary care (Amsel, R. *et al.*, 1983). Vaginitis has a negative effect on women's quality of

life, generating anxiety, shame, and concerns about hygiene (Eschenbach, D. A. *et al.*, 1988).

The medical history alone is not enough to make the diagnosis of the different causes of vaginitis; the findings of the physical examination and the results of the diagnostic aids can be used together with the medical history to determine the diagnosis (Caillouette, J. C. *et al.*, 1997; Wiesenfeld, H. C. and Macio, I. 2004).

The therapeutic regimens of vaginitis are multiple, being necessary to take into account both the recurrent infection and the presence of adverse effects, likewise not to forget the resistance, the difference during pregnancy, and the treatment of sexual partners (Food and Drug Administration, 2002).

Uncomplicated CVV is most effectively treated with local azoles. Oral treatment with a single dose of fluconazole is also effective. The treatment of complicated VVC is prolonged and most often consists of multiple doses of oral fluconazole or at least one week of local azoles (Amsel, R. *et al.*, 1983; Weisberg, M., & Summers, P. 1996).

The mainstay of therapy against BV is metronidazole, but nitroimidazoles and some other agents, such as nifurrate, have also been successfully used (Sihvo, S. *et al.*, 2000; Amsel, R. *et al.*, 1983; Caillouette, J. C. *et al.*, 1997; Ferris, D. G. *et al.*, 2002).

On TV, metronidazole has been the treatment of choice for women for decades, and the single dose has been considered the first line of treatment, with a resistance of 2-5% and therapeutic failure of 7-10% (Brown, H., & Drexler, M. 2020; Gaydos, C. A. *et al.*, 2017).

PATIENTS AND METHODS

This cross-sectional study recruited 90 women with vaginitis aged 25-40 years. Clinical and demographic data were collected from obstetrics and gynaecology outpatient clinics in different hospitals in Iraq between 7 July 2022 and 19 August 2023. These data included Age, body mass index, co-morbidities, pregnancy status, education level, employment status, and income level.

In addition, this study was conducted by diagnosing and determining the main characteristics of vaginal discharge found in women, as it included all clinical data, which included the smell of vaginal discharge, the colour of vaginal discharge, the consistency of vaginal discharge, the number of vaginal discharges, occurring 8-16 days after menstruation, and taking any treatment for vaginal discharge, currently taking treatment for any disease, being sexually active, and vaginal discharge affecting sexual relations. This study also recorded the clinical symptoms commonly seen in women with

vaginitis. The study also recorded data on the main causes of vaginitis in women, including bacterial infections, yeast infections, hormonal changes, irritants such as soap or douching, sexually transmitted diseases such as chlamydia or gonorrhoea, and changes in the natural balance of bacteria in the vagina.

To get more data, this study recorded the severity of vaginitis in women using the Vaginal Health Index (VHI), which measures the healthy aspect of the vaginal lining. This scale ranges from 1 to 5, with 1 indicating severe inflammation, 2 to 3 indicating moderate inflammation, and 4 to 5 indicating mild inflammation.

The eight categories of physical functioning, role limitation due to physical problems, role limitation due to emotional problems, energy/fatigue, mental well-being, social functioning, bodily pain, and general well-being, are used to assess the quality of life of women with vaginitis. HRQOL scores are determined using an algorithm (36) that takes into account the number of questions answered in each domain and standardises all domain scores between 0 and 100, with zero representing the lowest possible level of life and well-being and 100 representing the optimal level of life and health.

RESULTS

Table 1: Baseline and demographic characteristics of women with Vaginitis.

Characteristics	Number of patients [90]	Percentage [%]
Age		
25 – 30	77	85.56%
31 – 35	8	8.89%
36 - 40	5	5.56%
BMI, Kg/m2		
<25	23	25.56%
25–30	42	46.67%
>30	25	27.78%
Comorbidities, n (%)		
Yes	36	40.0%
No	54	60.0%
Asthma	3	3.33%
Diabetes	12	13.33%
Anemia	6	6.67%
Kidney diseases	2	2.22%
Hypertension	9	10.0%
Heart failure	4	4.44%
Pregnancy status, n (%)		
Pregnant	27	30.0%
Not pregnant	63	70.0%
Smoking status, n (%)		
Yes	12	13.33%
No	78	86.67%
Educational level, n (%)		
Primary-preparatory	18	20.0%
Intermediate-secondary	23	25.56%
University/postgraduate	49	54.44%
Occupation, n (%)		
Working	25	27.78%
Not – working	65	72.22%
Income level, n (%)		
< 700 \$	59	65.56%
> 700 \$	31	34.44%

Table 2: Determining the main characteristics of vaginal discharges discovered in the women.

Characteristics	Frequency [90]	Percentage [%]
The Odor of the vaginal discharges		
Non- offensive	72	80.0%
Offensive	5	5.56%
Fishy	13	14.44%
The color of the vaginal discharges:		
Clear	9	10.0%
White	72	80.0%
Yellow	6	6.67%
Brown	2	2.22%
Green	1	1.11%
The consistency of the vaginal discharges		
Thin	6	6.67%
Thick white	68	75.56%
Muroid	16	17.78%
The number of vaginal discharges		
Slight	41	45.56%
Heavy	49	54.44%
It occurs after 8-16days of menstruation:		
Yes	72	80%
No	18	20%
Taking any treatment for vaginal discharges		
Yes	4	4.44%
No	86	95.56%
Currently taking treatment for any illness.		
Yes	9	10.0%
No	81	90.0%
Sexually active		
Yes	68	75.56%
No	22	24.44%
Vaginal discharges bothering you and affect sexual relations.		
Yes	76	84.44%
No	14	15.56%

Table 3: Identify the common symptoms prevalence into women who have vaginitis.

Symptoms	Frequency [90]	Percentage [%]
Itching/pruritus in the genital area	65	72.22%
Vaginal Soreness	81	90.0%
Dyspareunia	75	83.33%
Dysuria	85	94.44%
Burning Sensation	82	91.11%
Vaginal dryness	57	63.33%
Lower abdominal pain	34	37.78%
Abnormal vaginal bleeding	15	16.67%

Table 4: Identify the basic causes that resulted to vaginitis in the women.

Causes	Number of patients [90]	Percentage [%]
Bacterial infections	36	40.0%
Yeast infections	28	31.11%
Hormonal changes	12	13.33%
Irritants such as soaps or douches	6	6.67%
Sexually transmitted infections like chlamydia or gonorrhea	3	3.33%
Changes in the normal balance of bacteria in the vagina	5	5.56%

Table 5: Measuring severity of vaginitis in the women using Vaginal Health Index (VHI).

Items	Number of patients [90]	Percentage [%]
Mild	9	10.0%
Moderate	32	35.56%
Severe	49	54.44%

Table 6: Assessment of general quality of life regarding vaginitis between participants observed in this study.

Domains	(SF-36), mean \pm SD
Physical functioning	56.8 \pm 13.49
Role limitation due to physical problem	59.45 \pm 15.83
Role limitation due to emotional problems	34.32 \pm 10.24
Energy/fatigue	49.63 \pm 12.68
Emotional well being	64.77 \pm 14.93
Social functioning	45.73 \pm 15.49
Body pain	52.35 \pm 13.88
General Health	52.14 \pm 6.83

DISCUSSION

Recent research has indicated that infections of the genital tract (GTIs) and infections of the reproductive tract (RTIs) have a global impact on individuals, including men, women, families, and communities. Among RTIs, vaginitis is one of the most common infections, especially among women (Khan, Z. *et al.*, 2019). A multitude of risk factors contribute to these infections, which pose a significant threat to the health of women. They may result in serious consequences, including ectopic pregnancy, infertility, chronic pelvic pain, abortion, and an increased chance of HIV transmission (Wiesenfeld, H. C., & Macio, I. 1999). Therefore, it is of paramount importance to treat and prevent this disease in an appropriate manner.

A significant global health concern for women of reproductive age is vaginal infections (Nyirjesy, P. *et al.*, 2020). These illnesses have a detrimental effect on the overall quality of life (QOL) of women, placing their reproductive health at risk. Vaginal infections are personal, which is why people attempt to avoid them. In the past, vaginal infections have received little attention and may have been considered to be a serious problem, although the fact that the symptoms severely lower the quality of life of the women who experience them should be taken into account.

Vaginal infections were an important medical problem for women that have become increasing prevalent around the world. Maintaining and improving women's health required early detection of vaginal infections, beginning an appropriate method of treatment, and adopting appropriate security precautions. It's the duty of nurses to inform patients about various aspects of vaginal infections and to avoid them from developing (Paavonen, J. A., & Brunham, R. C. 2020; Schwebke, J. R. *et al.*, 2018).

The present study found that the majority of women (77 cases) were between the ages of 25 and 30. This age range was also observed in the German research, "Prevalence of Vaginal Infection as well as Related Risk Behavior among Women in Germany (Schwebke, J. R. *et al.*, 2020)." The study found that infections can occur at any age, with the highest prevalence observed among those aged 25 to 40. This is consistent with findings from an Indian study that identified difficulties in identifying the age distribution of trends in vaginal

infections due to interactions between a variety of physiological, immunological, and behavioural variables. This suggests that women of all ages were at risk for vaginal infections.

The results of this study demonstrated a matrix correlation among the demographic parameters of the HRQOL domains. The study found a non-significant negative correlation within the married status of the women and their social and physical functioning, as well as a non-significant negative correlation among the social functioning, body pain, and energy/fatigue of the non-working women. However, a statistically significant positive link was found between high levels of education and social functioning, as well as energy/fatigue (Schwebke, J. R. *et al.*, 2020).

This study revealed a matrix connection between the vaginal discharge characteristics of the HRQOL categories and their characteristics. The amount and mucoid nature of their secretions from the vagina, as well as their fishy odor, all revealed a nonsignificant negative related to social function. Additionally, there was a non-significant inverse relationship between the frequency of five to eight vaginal discharges per study woman and their role limitation as an outcome of their mental health. Furthermore, a non-significant negative connection was observed between dyspareunia and social functioning (Ross, R. A. *et al.*, 1995).

The results of this study concur with an American study (Chavoustie, S. E. *et al.*, 2017) on the "Impairment of quality of life within symptoms reproductive tract infection as well as sexually transmitted infection," that discovered that the general QOL score before and after an intervention was 35.6 ± 4.26 and 58.04 ± 4.22 , respectively. Due to this, quality of life (QOL) evaluations enabled a more precise evaluation of the disease's influence on daily activities. This is particularly significant in cases of recurrent infections (RTIs) while the disease is physically and psychologically stressful and medical care seeking is impeded by a variety of mainly social factors (Yano, J. *et al.*, 2019).

CONCLUSION

Vaginitis can have a profound impact on a woman's general state of health, encompassing the physical, psychological, social, and financial aspects of life.

Vaginitis represents a significant challenge for women and for the medical professionals tasked with treating them. Despite the growing body of research on the vaginal microbiome and the development of novel therapeutic approaches, some cases of vaginitis can be effectively treated with established methods that have been scientifically validated for efficacy when a proper diagnosis is made. It is of the utmost importance that women who experience recurrent or complicated vaginitis seek out clinicians who have expertise in the treatment of vaginitis rather than attempting to self-treat.

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