Quality Of Life among Women Diagnosed With Vaginal Infection

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Abstract

Background Vaginal infections (VI) are a global health problem for women at reproductive age. These infections threat the women's health and have negative impacts on their quality of life (QOL**). Aim of the study:** Assess the risk factors and quality of life among women diagnosed with vaginal infections. . **Subjects and methods**: **Research Design:** The study was descriptive research design .**Setting:** The study was conducted in obstetric and gynecological outpatient clinics at zagazig University hospitals**. Subjects:** a convenience sample included all accessible of women who suffered from vaginal infections. **Tool of data collection**: Two tools were used**: Tool I :** A structured interviewing questionnaire form . **Tool II:** quality of life form about vaginal infection. **Results** revealed that the infected women with vaginal infection were most likely to have effect on emotional well-being and role limitation due to physical problem with a mean ± SD (62.1±11.5 and 59.3±16.8 respectively).As well as mean of Physical functioning for these studied women (51.7±17.4).**Conclusion**: The study finding concluded that there is a relation between vaginal infection and health related quality of life in women diagnosed with vaginal infection, and The study also revealed that the disease has a strong impact on patient's usual daily activities. **Recommendation**: This study recommended that design an educational programs for women about effect of vaginal infection on their quality of life on large sample .As well as, further research is recommended to study the effect of an educational program for the management of vaginal infection.

Key words: vaginal infection – Quality of life-women –type of infection –hospital

Introduction

Vaginal Infections (VI) are a global health problem for women at reproductive age. These infections threat the women's health and have negative impacts on their quality of life (Qol). Because of the personal nature of vaginal infections, they are often avoided. Despite the fact that the symptoms have a severe influence on the quality of life for the women who encounter them, vaginal infections have historically been a relatively underexplored subject and may have been seen as a minor problem (1)

According to the American Social Health Association **(2)**, 70 percent of women self-treat vaginal infections before seeking medical help. Typically, they mistookly believed they had a yeast infection when, in fact, they had bacterial vaginosis (BV). To rule out concurrent infection, establish the diagnosis with microbiological testing and a full sexual health screening; in addition to their American Studies have indicated that vaginitis has a detrimental impact on women's quality of life, with some women experiencing worry, humiliation, and hygiene concerns, especially in those with repeated symptoms**.**

Vaginitis is a general term that refers to inflammation of the vaginal wall. It is caused by an alteration in the natural vaginal defensive mechanisms such as vaginal flora (lactobacilli), vaginal pH, and vaginal squamous epithelial layer. It's also marked by vaginal symptoms like discharge, odor,

itching, irritation, or burning. Vaginitis affects the majority of women at some point in their life.Making it the most prevalent gynecologic diagnosis [(3)].

There are two major types of vaginitis: Whether infectious or non-infectious vaginitis. For non-infectious vaginitis, it can be caused by a variety of factors such as: sensitivities to underclothes, feminine hygiene products, and vaginal douches, spermicidal and occupational exposure. Irritation from tampons, sanitary napkins, and panty liners, hormonal factors as hypoestrogenism and iatrogenic reasons as in intra uterine device (IUD), pessaries, and using chemical products. Finally, traumatic by foreign body inserted into the vagina, and contact dermatitis of the vulva caused by friction from pants, restricted presses jeans etc. While infectious vaginitis, which accounts for 90% of all vaginal infections in women of reproductive age, is caused by one or more of the organisms listed below: by Candida albicans (C. albicans) as yeast, Bacterial vaginosis (BV) caused by Gardnerella vaginalis (G. vaginalis) as bacteria, and Trichomonas vaginalis (T. vaginalis) as protozoa [(4)] .

Some predisposing factors for vaginitis include: hormonal change (pregnancy, contraception, menopause), diabetes, long term using of antibiotics and corticosteroids, frequent douching, tight-fitting nylon pants, obesity; lack of physical activity high intake of sugar, carbohydrates, cola, and alcohol; low intake of dairy products; low vitamin C; stress; sleep disorders [(5)].

The recurrence of vaginal infection is defined by four or more episodes of infection in a year. This is related to poor personal hygiene practices such vaginal douching, which disrupts the normal vaginal flora, as well as re-infection from an untreated partner. Furthermore, women's self-diagnosis and self-treatment of vaginal infection episodes without microbiological evidence of infection [(6)].

In women of reproductive age, bacterial vaginosis is the most common cause of vaginitis. It is a condition that happens when the vaginal microbiological flora is disrupted due to a decrease in the lactic acid bacteria that normally dominate the vaginal environment. At the same time, an overpopulation of anaerobe bacteria emerges. The underlying cause of this vaginal shift is this alteration in vaginal flora is still a mystery. In addition to Bacterial vaginosis has a negative impact on women's sex lives, and it is usual for them to be hesitant to be intimate. [(7)]

The most obvious main symptom of bacterial vaginosis is an extremely foul-smelling vaginal discharge. The odor of the discharge can be described as that of “rotten fish” The active ingredients Metronidazole and Clindamycin are used to treat bacterial vaginosis. Following numerous medical treatment options for bacterial vaginosis, there is a link between repeated bacterial vaginosis infections and subsequent fungal infections [(8)].

Vaginal candidiasis is an infection of the vagina involving overgrowth of a yeast, or fungus, known as Candida. This yeast is normally present in the mouth, gut and vagina, as are a number of other organisms. If the balance of microorganisms is disrupted, as can occur with taking broad spectrum antibiotics, hormonal fluctuations, and other conditions, an overgrowth of yeast can occur. Vaginal candidiasis, often referred to as a "yeast infection," is a common problem, affecting nearly 75% of adult women in their lifetime [(9)] .Itching and a thick, white discharge are the most common symptoms of vaginal

candidiasis, Normally the odor is not offensive. It can also make sexual intercourse and urination painful. The external tissue around the vagina, the vulva, may become red and swollen [10] .

Quality of life (Qol) :(WHO**)** defined: it a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. The concept of health related quality of life was initially developed and operationalized with adult illness populations, and refers to the specific impact of an illness or injury, medical treatment, or health care policy on an individual's quality of life [19]

As well as Health related quality of life (HRQOL) indicates magnitude of impact exerted by a disease or medical condition upon everyday physical, emotional, mental and contextual well-being of a person thus it stands for the subjective perception [20]

Eight important measures of HRQOL contain the following domains: physical functioning, emotional functioning, social functioning, energy (fatigue role), body pain, role limitation due to physical problem, role limitation due to emotional problem, general health. [20]

QOL has conceptualization principles which include QOL is multidimensional and is influenced by personal and environmental factors and their interaction. As well as QOL has the same component for all people who are enhanced by self-determination, resources, purpose in life and a sense of belongingness[20]

Vaginitis and Recurrent vaginal infection may impact negatively on female's social, personal and work relationships besides significantly affecting their quality of life, woman's health and overall well-being. Of note, many women with recurrent yeast infections miss as much as a week of work due to untreated Candida vaginitis. BV is also known to be recurrent in more than 50% of women and has a severe impact on lifestyle, in both selfsteem and sex lives. Many women feel embarrassed and self-conscious of their symptoms and are often confused about why they experience recurrent vaginitis; they may become frustrated at their lack of control over their health**.** [22]

The primary role of the nurse in managing vaginal infections is to provide health education in order to modify the health behaviors and to prevent the occurrence as well as recurrence of vaginal infections [6]**.**

Significance of study:

Vaginal infection is recognized as a major public health problem that causes a variety of problems for women at all ages and 40% of these women suffer from vaginal infection in Egypt .because of the intimate nature of vaginal infections, they tend to remain a taboo subject . Vaginal infections have historically been a relatively underexplored subject and have perhaps been regarded as a relatively minor problem despite the fact that the symptoms have a negative impact on the quality of life for the women who experience these symptoms [1]**.**

Aim of the study:

The aim of this study was to: assess the quality of life among women diagnosed with vaginal infection

Research Questions:

1**-**What are women levels of knowledge about vaginal infection?

2**-**what is the quality of life among women diagnosed with vaginal infection?

Subject and methods:

Research design:

A descriptive research design was used in this study.

Research setting:

The study was conducted in the obstetrics and gynecology department, Zagazig University Hospitals, Sharkia Governorate, Egypt. The reasons for choosing this setting, it's the main teaching hospital in Zagazig and it is the referral hospital for all cities in Al sharkia, where women attending for receiving reproductive health services with minimal or even free cost. Furthermore it covers a wide range of population with different socio-demographic and obstetrical characteristics as well as the rate of attendance was high. It's composed of five floors; the first floor contains reception and administrative offices. The second floor includes postnatal care unit. Third floor includes high risk care unit and composed of big examination room, three rooms, ten beds and intensive care unit. Additionally, there is one room for nursing staff, a bathroom and an educational hall; the services are running by 15 physicians, ten nurses & two workers. The fourth floor contains Neonatal Intensive Care Unit, the delivery examination room and subjects and methods 37 cardiotocograph (CTG) examination room and the fifth floor involves three operations rooms for normal vaginal delivery and caesarian section. one room for nursing staff, a bathroom and an educational hall; the services are running by 15 physicians, ten nurses & two workers. The fourth floor contains Neonatal Intensive Care Unit, the delivery examination room and subjects and methods 37 cardiotocograph (CTG) examination room and the fifth floor involves three operations rooms for normal vaginal delivery and caesarian section.

Sampling:

Sample type: A Convenience sample was used.

Sample size: was calculated according to flow rates for six months period from August 2020 to January 2021, (105) women suffer from these vaginal infection.

Tools of data collection.

Tool I: A structured interview schedule was used that was developed by the researcher based on relevant literature, aim of the study and the data needed to be collected ,it was written in simple Arabic language to suit the women level of understanding and include two parts:

Part (1): It was used to assess socio-demographic characteristic. Such as age ,occupation, level of education ,marital status ,body mass index, menstrual history ,contraceptive history ,obstetrical history ,life style and culture habits ,

Part (2): knowledge about characteristics of vaginal discharges and It was used to assess women vaginal infection characteristics such as odor of Infection, color, consistency, time of vaginal discharges frequency ,behavior, treatment and symptoms of vaginal discharges .

Scoring System:

Each item was assigned: a score (2) was given when the answer was completely correct, a score (1) was given when the answer was incompletely correct and a score (0) was

given when the answer was don't know .The total score for the knowledge of women was calculated by the addition of the total score of all sections, the women total knowledge score was ranged from (30-50) and classified as the following :

-Poor knowledge when total score was 0 to less than (20)

-Average knowledge when total score was 50% to less than 75%(25-35)

- Good knowledge when total score was 75% to100 %(35-50)

2-Tool II: quality of life measuring scale (SF-36):

It contains 36 questions, including (2)general question ,(34) Questions divided into eight domains: physical functioning, role limitation due to physical problem, role limitation due to emotional problem, energy/fatigue, emotional wellbeing, social functioning, body pain and general health. The HRQOL scores are calculated according to an algorithm 36 that considers the number of answered questions in each of the domains and standardizes the scores of all domains from zero to 100, with zero being the worst possible health condition and poor quality of life and 100 being the best health condition and excellent quality of life. The algorithm inverts the score values for questions to calculate the final score

Scoring System:

Regarding system high score 100

- Good quality of life =100-75
- Fair=75-50
- Poor quality of life =less than50

Validity &reliability:

Tools were reviewed by five experts in the field of Obstetrics and Gynecological Nursing to test its content validity. Modifications were done accordingly based on their judgment and reliability was done by Cronbach's Alpha ,the present study showed overall reliability of quality of life inventory (total) Alph Cronbach (.739good consistency)

Field work:

Data collection took a period of six months from August 2020 till January 2021. The data were collected at three days of the week (Saturday, Monday, and Wednesday) from 9:30 am to 12:00 pm. The women were interviewed to fill the sheet after complete explanation of the purpose of the study and greeted her and asked for participation. Throughout the interview, relative information was recorded in the designed sheet depending upon the response of the participant. The time needed for finishing each interview ranged between 20-30 minutes according to women physical and mental readiness and desire of women to complete the sheet with me and after finishing the sheet thank her about participation .

Pilot study:

Was carried out on 10% of the study sample that forms 10 women. It was done to test the study tools in terms of clarity and feasibility, and the time required to be conducted and to assess the degree of the studied women understanding of the questionnaire and acceptance to be involved in the study, to find out the possible problems and obstacles that might face the researcher and interfere with collection of data, and to estimate the time needed for data collection. Based on the results of the pilot study, all required modifications were done by adding or omission of some questions and changing the typing of some questions to be simpler and easier, the participant not included. **Administrative and ethical consideration:**

An official permission letter was obtained from the dean of the Faculty of Nursing and hospital administration for data collection in Zagazig University Hospital. All ethical issues were taken into consideration during all phases of the study: The researcher maintained anonymity and confidentiality of the subject .The inclusion in the study was totally voluntary. The aim of the study was explain to every woman before participation and an oral consent was obtained. Women were notified that they can withdraw at any stage of the research: also they were assured that the information obtained during the study will be confidential and used for the research purpose only

Statistical analysis:

Data entry and statistical analysis were done using SPSS 22.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. The Cronbach alpha coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Quantitative continuous data were compared using the non-parametric Mann-Whitney or Kruskal-Wallis tests. The Spearman rank correlation was used for assessment of the interrelationships among quantitative variables and ranked ones. Statistical significance was considered at p-value <0.05.

Significant of the study

- When p <0.05, it is statistically significant.
- When p>0.05, it is statistically insignificant.

RESULTS

Table 1 describes the demographic characteristics of studied women. The age ranged between 21 and 44 years, and the highest percentage of women 91, 3% were 21 years old with a mean±SD of 26.25 ± 4.0. As regards the educational level , more than two fifth 42,6%of women post graduated ,as well as nearly one quarter 21,7%had basic (primary –preparatory)level of education .The same table also shows two third 67%of women were housewives ,and also the most women were married and had sufficient income 81,7% and 81,7%respectively .

Table (2): This table shows characteristics of vaginal discharges of studied women .Most of studied women 90.4% had non-offensive vaginal discharges, as well as four fifth had white color of vaginal discharges and thick white consistency of vaginal discharges 81, 7%, 80,0%respectively, however more than half of them 55.7% had heavy amount of vaginal discharges, and more than three quarter 76.5 %of studied women had discharges after 8-12 days of menstruation

Table (3): Clarified characteristics of vaginal discharges of studied women .This table presents that the majority of studied women had dysuria and burning sensation 98.3%and 94,8% respectively, as well as most of studied women had vaginal soreness and dyspareunia 89,6% and 85,8% respectively. And 70% of studied women had itching/pruritus in genital area. However the majority of studied women hadn't take treatment for vaginal discharges and for any illness 96,5% and 91,3%respectively.Meanwhile four fifth 80% of studied women were sexually active and vaginal discharges bothering them and affect sexual relation

Table (4*)*: This table demonstrates that there was statistically significant relation between the women occupation and social functioning at p=0.012.

Table **(5):** This table shows matrix correlation of HRQOL domains and their demographic characteristics. There was non-significant negative correlation between their marital status married and physical functioning and their social functioning among studied women at p=-.325 and p=-.186 respectively. On the other hand there was statistically significant positive correlation between level of education high education and energy /fatigue and social functioning at p= .253and p=.204 respectively.

Table (6): This table shows matrix correlation of HRQOL domains and their vaginal discharge characteristics. There was non-significant negative correlation between social functioning and their odor of the vaginal discharges fishy and the consistency of the vaginal discharges mucoid and the amount of vaginal discharges at p=-.217 and p=-.334 and p=-.190 respectively. And there was non-significant negative correlation between social functioning and dyspareunia at (p=-.188).

Discussion

The reproductive tract infection RTI or genital tract infection GTI is a global health problem which affects men, women, families and communities. Female alone have an estimated incidence of vaginitis of ten–twenty five percent. Vaginitis is one of the most prevalent infections among RTIs, especially among women . These infections threat the woman 's health and may have severe consequences such as infertility, ectopic pregnancy, chronic pelvic pain, abortion and an increased risk of HIV transmission,and have many risk factors contributing to it . Therefore, proper prevention and treatment of this infection are of great importance **Parsapure** [(15)] .

Vaginal Infections are a global health problem for women at reproductive age. These infections threat the women's health and have negative impacts on their quality of life QOL.Because of the personal nature of vaginal infections, they are often avoided. Despite the fact that the symptoms have a severe influence on the quality of life for the women who encounter them, vaginal infections have historically been a relatively underexplored subject and may have been seen as a bad problem **Abdelnaem** [(1)] .

Vaginal infection is an important women's health problem associated with a tendency of increasing prevalence worldwide. Early recognition of vaginal infections, initiating appropriate treatment and taking necessary precautions are essential in protecting and improving women's health. Nurses have the responsibility to educate patients related to various aspects about vaginal infection and keep themselves free from it **Youness** [(15)] Therefore, this present study aimed to assess the risk factors and quality of life in women diagnosed with vaginal infection, this aim is achieved through across-sectional design that answered the research questions about risk factors and quality of life among women diagnosed with vaginal infection.

The finding of current study will be discussed under main five sections such as personal characteristics of women, knowledge about infection, quality of life among women with vaginal infection, relation between vaginal infection and quality of life .And final section reflected correlation between vaginal infection and quality of life.

General characteristics of studied women: Women's socio-demographic characteristics play a

great role in demonstrating risk factors associated with vaginal infections **chung [17].** The present study showed that women age ranged between twenty one-forty four years, the majority of the studied women had age twenty one years old and with a mean±SD 26.25 ± 4.0. This finding agrees partially with **Hayat [11]** who studied "Prevalence of Vaginal Infection and Associated Risk Health Behaviors among Women in Ismailia City, with a mean 27.97 ± 5.450. This study described that infection occurs at all ages especially at the age range from twenty to forty years old which is similar to that reported with **Bahram [11]** who describe the difficulty in distinguishing for the age distribution patterns of vaginal infections due to various behavioral, physiological and immunological variable interactions. This indicates that vaginal infections affect women of all age. On the other hand, this is not accordance with **Youness et al [15]** study who studied "Effectiveness of planned educational program on vaginitis and its preventive measures on female knowledge, the mean age of studied women was 19.2±0.53 years. This variation may be due to difference in sample size and sample criteria.

The current study reported that more than half of studied women were married**.** These findings disagree with the study conducted by **Abd El-Salam [15]** who studied "The efficacy of learning package regarding vaginal infection and associated risk health behaviors among female", illustrated that seventy three percent were unmarried, this clarified that vaginal infection affect married and unmarried women .

And the current study reported that more than half of studied women were post graduated studies, and twenty five percent were secondary schooling, as well as two third housewives. In addition to most of them had sufficient income .This observation in the present study is partially similar to the study conducted **by Hayat[11]** illustrated that half of them secondary education with highest percentage being house wives, and one quarter of the women had low satisfactory socio- economic.

As regarding characteristics of vaginal discharges of studied women, candida signs are the most commonly reported symptoms of studied women followed by bacterial vaginosis signs, this study clarified that eighty percent of these women had non-offensive vaginal discharges, in addition to most of them had white color of vaginal discharges and thick white consistency of vaginal discharges respectively candida signs, as well as more than half of them had heavy amount of vaginal discharges. The findings of the present study are partially in the line with the study conducted by **Hamed [2]** who studied "The impact of genital hygiene practices on the occurrence of vaginal infection and the development of a nursing fact sheet a prevention massage for vulnerable women" revealed that the white cheese like discharge was the most common candida signs sixty five percent and four point eight percent from bacterial vaginosis. Also, the findings of the current study partially correspond with **Emam et al [16]** who studied **"**Effect of vaginal discharge on women's quality of life" showed that, about forty eight percent thick white cheese like discharge candida signs and nine point eight percent bacterial vaginosis. On the other hand, the findings of the current study are disagreed with **Khedr et al[18]** who revealed that, thirty two percent suffer from candidiasis signs and five point eight percent suffer from bacterial vaginosis. This may be due to variation in sample selection criteria.

Moreover, these results revealed that the majority of studied women

hadn't take treatment for vaginal discharges. This corresponds with findings of the study conducted by **Sabarwal et al**[17] who studied "Treatment seeking for symptoms of RTIs among young women" found that, the treatment seeking for any RTI infection was poor and sixty six percent of unmarried women had not sought any treatment for their symptoms . The findings of current study interpreted that in spite the recurrence of infection per year many times for women, they didn't seek treatment due to lack income to seek medical advice and there is need to encourage women to seek medical advice. Therefore, these results indicates that there is need for health education about the importance of seeking medical advice and adherence about the treatment of infection

Quality of life among women with vaginal infection: Regarding quality of life. This study showed that the infected women with vaginal infection were most likely to have effect on emotional well-being and role limitation due to physical problem with a mean ± SD 62.1±11.5 and 59.3±16.8 respectively, as well as mean of Physical functioning PF for these studied women 51.7±17.4. The findings of the current study disagree with the results conducted by **Mendling et al** [18] who reported a stronger impact on mental health than on physical health using SF36, albeit to a somewhat lesser extent .These results come in agreement with **Annosfie,** [9] How Vaginal Infections Impact Women's Everyday Life Women's Lived Experiences of Bacterial Vaginosis and Recurrent Vulvovaginal Candidias.

Relations between participants' HRQOL domains related to vaginal infection and their demographic characteristics: This study demonstrated that there was statistically significant relation between the women occupation who infected with vaginal infection and social functioning. The finding of the current study is supported by **Jade et al** [7] **"**The burden of bacterial vaginosis: women's experience of the physical, emotional, sexual and social impact of living with recurrent bacterial vaginosis" mentioned that, recurrent bacterial vaginosis had impact on physical emotional, sexual, social life and total QOL.

The present study results revealed that matrix correlation of HRQOL domains and their demographic characteristics. There was non-significant negative correlation between their marital status married and physical functioning and their social functioning among studied women respectively, as well as there was non-significant negative correlation between nonworking women and energy/fatigue, social functioning, body pain. On the other hand there was statistically significant positive correlation between high education and energy /fatigue and social functioning respectively. SF36 QOL dimensions were all affected among women with RVVC in general, but significant differences were found for other domains as well **Samuel et al**[16]

According to this study, showed matrix correlation of HRQOL domains and their vaginal discharge characteristics. There was non-significant negative correlation between social functioning and their fishy odor of the vaginal discharges and the mucoid consistency of the vaginal discharges and the amount of vaginal discharges respectively .In addition to there was non-significant negative correlation between their role limitation due to emotional health and frequency of vaginal discharges five-eight times among studied women. And there was non-significant negative correlation

between social functioning and dyspareunia. The findings of the current study in agreement with **Sameer et al [(12)]** who studied "Impairment of quality of life in symptomatic reproductive tract infection and sexually transmitted infection" showed that, there was a significant differences between the domains as well as the total QOL score before 33.4±3.45 and after 56.07±3.31 intervention. So, QOL measures give more direct measure of the impact of the disease on daily life and this is more relevant in RTI/STIs where the condition is distressing physically, psychologically and treatment seeking is hindered by numerous factors which are predominantly social.

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Conclusion

Based on the findings of present study, it can be concluded that Bacterial and fungal infections are the most common cause of infectious vaginitis. Meanwhile, there are a relationship between vaginal infection and quality of life in infected women with vaginal infection. The study also revealed that the disease has a strong impact on patient's usual daily activities.

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Recommendation

In the light of the findings of the current study, the following recommendations are suggested: design an educational program for women about effect of vaginal infection on their quality of life on large sample. As well as, further research is recommended to study the effect of an educational program for the management of vaginal infection.

Table 1: demographic characteristics of participants in the study sample (n=115)

Demographic characteristics	Frequency	Percent
Age:		
21-<31	105	91.3
31-<40	7	6.1
≥40	**3**	2.6
Mean±SD	**26.25 ±4.0**	
Rang	**(21 – 44)**	
Marital status:		
Single	12	10.4
Married	94	81.7
Divorced	8	7.0
Widow	1	0.9
Education:		
Not read & write	5	4.3
Read/write	7	6.1
Basic[primary-preparatory]	25	21.7
Intermediate-secondary	29	25.2
University / postgraduate	49	42.6
Work:		
Working	38	33.0
Not Working / house wife	77	67.0
Income:		
Sufficient	94	81.7
Insufficient	21	18.3
Mean±SD	**30.92 ± 4.42**	

Table 2: Characteristics of vaginal discharges as reported by participants in the study sample (n=115)

Characteristics of vaginal discharges	Frequency	Percent
The odor of the vaginal discharges		
Non- offensive	104	90.4
Offensive	4	3.5
Fishy	7	6.1
The color of the vaginal discharges:		
Clear	13	11.3
White	94	81.7
Yellow	6	5.2
Brown	1	0.9
Green	1	0.9
The consistency of the vaginal discharges		
Thin	9	7.8
Thick white	92	80.0
Mucoid	14	`12.2
The amount of vaginal discharges		
Slight	51	44.3
Heavy	64	55.7
It occur after 8-16days of menstruation:		
Yes:	88	76.5
No:	27	23.5

Table 3: Characteristics of vaginal discharges as reported byparticipants in the study sample (n=115)

Characteristics of vaginal discharges	Frequency	Percent
Symptoms appear with vaginal discharges@		
Itching/pruritus in genital area	81	70.0
vaginal Soreness	103	89.6
Dyspareunia	98	85.2
Dysuria	113	98.3
Burning Sensation	109	94.8
vaginal dryness	64	55.7
lower abdominal pain	38	33.0
Abnormal vaginal bleeding	17	14.8
Taking any treatment for vaginal discharges		
Yes	4	3.5
No	111	96.5
Currently taking treatment for any illness		
Yes	10	8.7
No	105	91.3
Sexually active		
Yes	92	80.0
No	23	20.0
Vaginal discharges bothering you and affect sexual relation		
Yes	92	80.0
No	23	20.0

@women have more than these symptoms .

Table 4: Total quality of life regarding vaginal infection among participantsin the study sample (n=115)

SF-36 Domains	Mean± SD	Median
Physical functioning(PF)	51.7±17.4	60.0
Role limitation due to physical problem(RLPH)	59.3±16.8	62.0
Role limitation due to emotional problems(RLEH)	23.5±26.5	33.0
Energy/fatigue(REF)	51.3±11.8	55.0
Emotional well being (EWB)	62.1±11.5	64.0
Social functioning(SF)	44.1±11.5	38.0
Body pain(BP)	49.5±14.4	45.0
General health(GH)	51.3±6.6	50.0
Total Mean ± SD	**49.6±7.2**	
Rang	**26-67**	
Median	**49**	

Table 5: Relations between participants' HRQOL domains related tovaginal infection and their demographic characteristics

Demographic characteristic	PF	RLPH	RLEH	E/F	EWB	SF	BP	GH
Age:								
21-	55	62	40	55	64	37	45	50
31-	60	50	0	60	68	37	45	50
≥40	60	75	40	60	68	37	45	50
***P* –value**	0.520	0.514	0.341	0.202	0.139	0.929	0.748	0.520
Marital status:								
Single	60	62	40	55	64	37	45	50
Married	60	62	40	55	64	43	45	50
Divorced	50	50	0	55	64	43	40	50
Widow	50	62	80	45	56	37	45	45
***P* –value**	0.573	0.595	0.385	0.467	0.110	0.263	0.207	0.573
Education:								
Not read & write	60	75	0	45	56	50	55	50
Read/write	50	62	40	45	60	50	45	50
Basic[primary-preparatory]	60	50	0	55	68	37	45	50
Intermediate-secondary	60	62	40	55	64	37	45	50
University /postgraduate	60	62	40	55	64	37	45	50
***P* –value**	0.232	0.468	0.252	0.100	0.706	0.282	0.513	0.232
Work:								
Working	60	62	40	55	68	37	45	50
Not Working	60	62	0	50	64	50	57	50
***P* –value**	0.533	0.455	0.302	0.081	0.430	**0.012***	**0.034***	0.533
Income:								
Sufficient	60	62	40	55	64	37	45	50
Insufficient	50	62	0	50	60	37	45	50
***P* –value**	0.139	0.899	0.899	0.286	0.352	0.477	0.338	0.060
BMI:								
Normal Weight	60	56	0	55	60	37	45	50
Over Weight	60	62	40	55	68	43	45	50
Obese	50	62	40	55	64	37	45	50
***P* –value**	0.813	0.138	0.100	0.522	0.301	0.824	0.609	0.833

Table6: Correlation matrix of HRQOL domains scores and theirdemographic characteristics

Demographic characteristics	PF	RLPH	RLEH	E/F	EWB	SF	BP	GH
Age	.107	.021	-.088	.146	.166	-.022	.079	-.141
Marital status [married]	**-.325****	.011	.005	.136	.156	**-.186***	-.004	.066
Education [higheducation]	-.154	.062	.134	**.253****	.037	**.204***	-.152	.002
Occupation [not work]	.110	-.077	-.084	**-.186***	-.059	**-.225***	**-.229***	.008
Income	-.149	-.079	.032	-.083	-.087	-.077	-.032	-.177

Table7: Correlation matrix of HRQOL domains scores and their vaginal discharge characteristics

Vaginal dischargecharacteristics	PF	RLPH	RLEH	E/F	EWB	SF	BP	GH
The odor of the vaginal discharges [fishy]	-.134	-.032	.177	.082	.022	**-.217***	-.008	-.047
The color of the vaginal discharges	-.106	-.043	.174	.060	.023	-.161	-.059	-.119
The consistency of thevaginal discharges [mucoid]	-.122	-.157	.015	-.028	-.067	**-.334****	-.004	-.004
The amount of vaginaldischarges	-.112	-.011	.165	.043	-.021	**-.190***	-.148	.105
Frequency of vaginal discharges [5-8 times]	.006	.058	**-.247****	.137	.093	-.209	-.161	-.075
Vaginal soreness	**-.205***	-.043	.124	-.021	-.127	-.175	-.021	.087
Dyspareunia	.110	-.005	-.043	-.150	-.087	**-.188***	.059	-.051
Lower abdominal pain	**-.270****	-.006	**-.444****	.124	.053	-.124	**-.191***	.076
Vaginal dryness	**-.400****	-.090	**-.354****	.139	-.088	-.075	**-.184***	.132

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