Research Article

Demographic survey of vaginitis prevalence in district Swabi, Khyber Pakhtunkhwa

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Abstract

Vaginitis is an important infection of females cause inflammation of vagina and vulva. It also causes discharge, itching and pain. Vaginitis is of three kinds, including *trichomoniasis*, bacterial vaginosis and vaginal candidiasis or vaginal yeast. The current questionnaire based study was conducted at Bacha khan medical complex (BMC) Swabi from March 2016 to May 2016. During the study high number of cases 22 (36%) were recorded in age group B: 21-25years while the lowest ratio of cases 2(3%) were recorded in age group G: 46-50 years. Also it was further noted that married females were more infected than non-married, i.e. 54(87%) and 8(13%) respectively. The mentioned infection is considering as a confidential issue of female in Pakhtun society. Awareness and further study is recommended regarding vaginitis.

Keywords: Demographic survey; District Swabi; Vaginitis

Introduction

Vaginitis also known's as vaginal infection is an inflammation of vagina and possibly vulva [1, 2]. It results in discharge, itching and pain [2]. Often associated with irritation of vulva. Infected women also asymptomatic usually after infection [3]. Vaginitis has three main kinds, i.e. *trichomoniasis*, bacterial vaginosis and vaginal candidiasis or vaginal yeast [4].

An approximate 37 lac individuals in the US affected by *trichomonal vaginitis* caused by protozoan, *Trichomonas vaginalis* is a sexually transmitted disease [5]. The incidence of *Trichomonas vaginalis* infection varies among sexually active women, usually 5% approximation amid women in family planning clinics,

10% between women using internet based screening program and most high rank among confined women 37 % [6-9]. Scientific signs and symptoms for vaginitis and vaginal discharge is estimated that majority are found asymptomatic [10-12]. Problems related to untreated *Trichomonas vaginalis* including serious health significances, infertility, pelvic inflammatory disease, low birth weight and increase possibility of HIV [13-17].

Bacterial vaginosis polymicrobial apparent vaginal infection having loss of *lactobacilli* and over growth of anaerobes [18]. Infection caused by multiplication of organisms including *Gardnerella vaginalis*, *Mobiluncus* species, *Mycoplasma hominis* and *Peptostrepto coccus* species [19]. In

Bacterial vaginosis no polymer nuclear cells are present in vaginal discharge but normal vaginal flora decreases and vaginal pH increase leads to overgrowth of *G. vaginalis* and vaginal anaerobic bacteria cause white or grey discharge with amine smells. The occurrences of bacterial vaginosis are problematic since one third to three residences women affected are asymptomatic [20]. In addition reports on bacterial vaginosis occurrences stated that the infection is found as 15-19% in gynaecological patients, 10-80% in pregnant patients and 20-41% in sexually transmitted clinics patients [21].

The most common gynaecological problem in pre pubertal girls is vulvovaginitis. Majority cases of vulvovaginal candidiasis caused by *candida albicans*. The infection vaginal yeast is actually not a sexually transmitted disease. Mostly at least once in the life span of all adult women, face genital yeast infection [22, 23]. Yeast infection by over growth of usually growing fungi in vagina generates unlikeable symptoms. Normally growing bacteria usually control yeast infection in the body. Yeast over grows if normal balance of microorganisms disturbed. When imbalance occurs, women's own natural bacteria permit fungal infection [24]. The vaginal Health Organization recommended that yeast infection prohibited in most cases; done by

keeping vaginal area dry after shower, avoid using fit underwear, tight fitting jeans and change wet bathing suits [25, 26].

Materials and methods

The present study was conducted at Bacha khan medical complex (BMC) Swabi, from March 2016 to May 2016. The ethical permission was granted by the higher authority of the hospital. A questionnaire based study was conducted conformed by the clinical diagnosis reports (vaginal examination). The obtained data of 62 patients were analyzed and entered into Micro-soft Excel 2010 and presented in the form of demographic studies, including name of patients, date of entry, gender and age, etc.

Results

During the current study the patients were placed in various age groups including age group A: 15-20 years, age group B: 21-25 years, age group C: 26-30 years, age group D: 31-35 years, age group E: 36-40 years, age group F: 41-45 years and age group G: 46-50 years. The results shows that high number of cases 22 (36%) were recorded in age group B: 21-25 years followed by age group A 12(20%), 10(17%) by age group C: 26-30 years, 8(12%) by age group D: 31-35 years, 4 (6%) by age group F: 41-45 years and 2(3%) by age group G: 46-50 years (Figure1).

Figure 1. Age wise distribution of patients

The data was also categorized on the basis of marital status and found that 54(87%) women were found married while 8(13%) unmarried had vaginal infections. Similarly in infected cases 24 (39%) women were recorded pregnant while 38(61%) were

recorded non-pregnant. Furthermore 61% women were found infected by fungi followed by mixed and bacterial infections 19% and 18% respectively, while 2% were infected by *Trichomonas* (Table1).

Table 1. Demographic distribution of patients

Marital status			
Married	Unmarried		
54 (87 %)	8 (13 %)		
Pregnancy status			
Pregnant	Non-pregnant		
24 (39 %)	38 (61 %)		
Types of infection			
Bacterial infection	Fungal Infection	Trichomonas	Mixed
11 (18 %)	38 (61 %)	1 (2 %)	12 (19 %)

Discussion

The results introduced the prevalence of vaginal infections among women of district Swabi, where the numbers of cases are increasing daily. In developing and non-developing countries it's becoming one of the major problems, pains taking as gynaecologic diseases [19]. The high rate of vaginitis infection was observed in age group 21-25, 22 (36%) which is considered as sexually active group. Venugopal *et al.* [27] conducted a research work in 2017 and found that vaginal infections were (27%) in age group 26-35 and 18-25 years followed by (23%) in age group 40-50 and 36-40 years. The increased prevalence in younger age groups may be due to increased sexual activity [27]. 38 (61%) women were infected by fungi followed by mixed and bacterial infections 19% and 18% respectively. Observations in our study concise with the study of Lennox *et al.* [27] where 19% had mixed infections, (64.71%) had fungal while (35.29%) had bacterial vaginosis [28]. Our finding are concise with the study conducted by Venugopal *et al.* [27] who found BV in (27%) of the patients followed by trichomoniasis (25%), vaginal candidiasis (22%) and shared infection (3%) [27]. Another similar results were recorded in the study conducted by Janulaitiene *et al.* [29] where 119 vaginal

samples were processed and 29 (24.4%) of them were categorized as BV positive [29]. This is analogous to the study investigated by Koumans *et al.* [30] who found 29.2% prevalence of BV [30]. In Pawanarkar and Chopra [31] readings, BV was found prevalent in 19% of womanhood like in our study [31]. In one of the research by Gupta *et al.* [32] a total of 139 females were investigated and vaginal infection were found in 44.6% of females as light higher than our study [32]. Nessa *et al.* [33] carried out a research work in 2013 in Bangladesh stated 48.1% cases of BV amid the sex workers which are also on the higher side [33]. In our study, the overall prevalence of fungal vaginitis were found to be (35.29%) comparable to (28.3%) of Rezaei *et al.*, [34]. Similar results were shown by Ness *et al.*, [35] stated that 40% of the married women have bacterial vaginitis indicated that a women with sexual transmitted vaginitis from their sexual partners [35]. The study concise with current study shows that 54 (87%) of the infected females have their sexual partners. The present study shows that 54 (87%) of the married females were infected by vaginitis, indicated that sexual activity may frequently be a risk factor for vaginitis. The results are in agreement with the research work conducted by Chengo *et al.* [36] who

reported vaginitis in (93.6%) of married females. Similarly shown by previous studies that *candida* spp more likely to thrive during individual sexual role could source to harm the vagina [37].

Conclusions

Vaginitis is an imperative infection of females cause inflammation of vagina and vulva. It also causes discharge, itching and pain. During the study high number of cases 22 (36%) were recorded in age group B: 21-25years while the lowest ratio of cases 2(3%) were recorded in age group G: 46-50 years. Also it was further noted that married females were more infected than non-married, i.e. 54 (87%) and 8(13%) respectively. The mentioned infection is considering as a confidential issue of females in Pakhtun society. Awareness and further study is recommended regarding vaginitis.

Authors' contributions

Conceived and designed the experiments: S Mehmood, Performed the experiments: Nabeela, Analyzed the data: S Zaib, Contributed reagents/ materials/ analysis tools: M Rizwan, Wrote the paper: Muhammad.

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