

Frequency of Dyspareunia Associated with Vaginal *Candida* in Young Sexually Active Females

Asma Khan,¹ Viqar Izhar,¹ M. Athar Khan¹ and Muhammad Amaar²

¹University Institute of Public Health, The University of Lahore, Lahore, Pakistan

²Beaconhouse National University, Lahore, Pakistan

ABSTRACT

To assess the frequency of dyspareunia associated with vaginal candida in young sexually active females, a descriptive study was carried out at a private healthcare centre in Lahore from January-December 2012. Two hundred sexually active females aged 16-22 years were selected by non-probability convenience sampling after obtaining formal consent. SPSS Version 16 was the software used to compile and analyze the data. Final results revealed that positive culture of candidiasis was present in 54% sexually active females whereas negative culture was obtained from only 17% sexually active females. In cases presented by 29% sexually active females, the dyspareunia was caused by factors other than vaginal candidiasis. Dyspareunia was notably associated with growth of *Candida*. The role of oral contraceptives in the induction of these symptoms has also been discussed. The study shows that candida infection is the major factor that induces dyspareunia hinders sexual intercourse. Another conclusion drawn from this study is that oral contraceptives play a key role in the recurrence of candidiasis associated with dyspareunia.

Key Words: Sexually active, dyspareunia, candidiasis, oral contraceptives, recurrent infection, vulvo-vaginal intercourse, vulvar-vestibulitis.

INTRODUCTION

Young women now consult health centers because of dyspareunia (pain during intercourse) (Friedrich, 1987; Goetsch, 1991). Females diagnosed with dyspareunia may develop a growing problem namely vulvar vestibulitis (VVS) which is a chronic pain syndrome (Foxman, 1990; Baggish and Miklos, 1995). A relationship has been observed between VVS and previously occurred candidiasis. Recent studies have reported that the incidence of vaginal candidiasis has been increased dramatically but there has not been any study dealing with the vaginal candida in young females who are currently sexually active (Ferrer, 2000; Adad *et al.*, 2001).

The aim of this study was to assess the rate of

vaginal candidiasis growth in sexually active females and to deduce clinical symptoms (past and present), including pain during intercourse which is in direct relation to the candida infection.

MATERIALS AND METHODS

This descriptive study was carried out from January to December 2012 at a private healthcare center in Lahore. Those sexually active females who were advised genital examination because of either use of oral contraceptives or any other reason with dyspareunia were offered to be a part of the study. Participation was voluntary and anonymous. After getting the formal consent from participants, they completed a pre-designed, pretested questionnaire based on safe sex methods (such as condoms and contraceptives) age at the first time of intercourse, sexual and hygiene habits. SPSS version 16 was used for compilation and analysis of data.

* Corresponding author: drasma_viqar@hotmail.com

RESULTS

Two hundred sexually active females aged 16-22 years after random selection a pretested questionnaire whose data was collected and analyzed by SPSS. Candida was found positive in 54% and negative in 17% women having dyspareunia. It was seen that 29% females had dyspareunia that was not due to candidiasis. Other factors related to dyspareunia were vulvar itching which was 60% positive for candida growth and candida negative females were 36%. Vulvar Itching due to some other cause not related to candida was seen in 4% females. Screening for abnormal vaginal discharge were 42% positive for candida, 21% negative while 37% had other causes for discharge. Vulvar soreness and erythema was 47% positive and 29% negative for candida and 24% was found due to other causes (Table 1). The P-value significance was less than 0.05% and mean age population was 19 years.

Table 1: Percentage distribution of complaints and their association with vaginal candida growth in women (n=200).

Complaints	Candida Positive (%)	Candida Negative (%)	Other Causes (%)
Dyspareunia	54	17	29
Itching	60	36	4
Vaginal Discharge	42	21	37
Vulvar Soreness	47	29	24

Table 2: Effect of sex routine and oral contraceptive use on vaginal candida growth in women (n=200).

Habits	Candida Positive (%)	Candida Negative (%)	Other Causes (%)
Frequent intercourse	27	69	4
Regular sex >4 years	42	53	5
Current Use of Oral Contraceptives	61	35	4
Oral Contraceptives >3 years or more	36	57	7

Recurrent candidiasis was more common (61%) in women who currently use oral contraceptive as compared to those using oral contraceptive (36%) for last three years. The candida growth was found less among females who refrained from sexual intercourse due to the fear of dyspareunia (Table 2). The percentage distribution shows association of candida growth and hygiene habits including others. The study showed significant association of dyspareunia with positive candida growth.

DISCUSSION

Young females with genital problems seek advice from adolescent health centers more often than females without genital issues. It is very important to record signs and symptoms in combination with analysis of yeast in order to evaluate the individuals with asymptomatic candida prevalence in the current population.. Significant association between growth of candida infection and dyspareunia has been reported by earlier workers (Spinillo *et al.*, 1995; Eckert *et al.*, 1998; Miller *et al.*, 2000; Bohm-Starke *et al.*, 2001). The current study revealed a significant relationship between growth of candida infection and dyspareunia, which is supported by previous studies (Miller *et al.*, 2000; Bohm-Starke *et al.*, 2001). Candida was diagnosed in 30% of females 15-19 years of age in Seattle healthcare clinic and 31% of women at Genito-urinary clinics (Odds and Bernaerts, 1994; Eckert *et al.*, 1998). Pap-smear study showed that vaginal candidiasis in women below 20 years was most common (Adad *et al.*, 2001). Spinillo *et al.* (1995) observed that women on oral contraceptives have a tendency of recurrent candidiasis. Moreover, VVS may occur due to the chronic candidiasis (Baggish and Miklos, 1995; Geiger and Sobel, 1995).

In our study, previous occurrence of candidiasis was linked with frequent painful intercourse. The sensitive vestibular mucosa might be strained with excessive use of oral contraceptives in combination to recurrent candidiasis. It was recently observed that regular intercourse and/or use of oral contraceptives before 16 years of age and for more than 2 years was significantly associated with pain during intercourse (Anna-Lena *et al.*, 2002;

Céline *et al.*, 2002). Thinning of the vaginal epithelial layer and a decreased amount of hydrogen peroxide-producing lactobacilli may be induced by high doses of progesterone for contraceptive purposes (Miller *et al.*, 2000). This situation may affect the superficial nerve endings, which have been shown to overreact on mechanical stimuli in women with VVS (Bohm-Starke *et al.*, 2001).

CONCLUSIONS

It was observed that candida was present in 54% young females of sexually active age having dyspareunia during a genital examination at a healthcare centre in Lahore. Both positive candida culture and history of recurrent candidiasis were associated with dyspareunia.

REFERENCES

- Adad SJ, de Lima RV, Sawan ZT, Silva ML, de Souza MA, Saldanha JC *et al.* Frequency of *Trichomonas vaginalis*, *Candida sp* and *Gardnerella vaginalis* in cervical-vaginal smears in four different decades. *Sao Paulo Med J*, 2001; 119: 200–205.
- Anna-Lena B, Linda N and Eva R. Vulvar pain, sexual behavior and genital infections in a young population: a pilot study. *Acta Obstet Gynecol Scand.*, 2002; 81: 738–742.
- Baggish MS and Miklos JR. Vulvar pain syndrome: a review. *Obstet Gynecol Surv.*, 1995; 50: 618–627.
- Bohm-Starke N, Hilliges M, Brodda-Jansen G, Rylander E and Torebjörk E. Psychophysical evidence of nociceptor sensitization in vulvar vestibulitis syndrome. *Pain*, 2001; 94: 177–183.
- Céline B, Jacques B, Michel F, Carol M and Caty B. Use of oral contraceptive pills and vulvar vestibulitis: a case-control study. *Am J Epidemiol.*, 2002; 156: 254–261.
- Eckert LO, Hawes SE, Stevens CE, Koutsky LA, Eschenbach DA and Holmes KK. Vulvo-vaginal candidiasis: clinical manifestations, risk factors, management algorithm. *Obstet Gynecol.*, 1998; 92: 757–765.
- Ferrer J. Vaginal candidiasis: epidemiological and etiological factors. *Int J Gynaecol Obstet.*, 2000; 71: 21–27.
- Foxman B. The epidemiology of vulvovaginal candidiasis: risk factors. *Am J Public Health*, 1990; 80: 329–331.
- Friedrich EG. Vulvar vestibulitis syndrome. *J Reprod Med.*, 1987; 32: 110–114.
- Geiger AM and Sobel JD. Chronic vulvovaginal candidiasis: characteristics of women with *Candida albicans*, *C. glabrata* and no candida. *Genitourin Med.*, 1995; 71: 304–307.
- Goetsch MF. Vulvar vestibulitis: prevalence and historic features in a general gynecologic practice population. *Am J Obstet Gynecol.*, 1991; 164: 1609–1616.
- Miller L, Patton DL, Meier A, Thwin SS, Hooton TM and Eschenbach DA. Depomedroxy progesterone-induced hypoestrogenism and changes in vaginal flora and epithelium. *Obstet Gynecol.*, 2000; 96: 431–439.
- Odds FC and Bernaerts R. Chrom-agar Candida, a new differential isolation medium for presumptive identification of clinically important *Candida* species. *J Clin Microbiol.*, 1994; 32: 1923–1929.
- Spinillo A, Capuzzo E, Nicola S, Baltaro F, Ferrari A and Monaco A. The impact of oral contraception on vulvovaginal candidiasis. *Contraception*, 1995; 51: 293–297.

(Received: December 21, 2014; Revised: March 03, 2015)