

VULVOVAGINAL CANDIDA INFECTION PREVALENCE IN TASHKENT

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ABSTRACT

Background: The information on the prevalence of vulvovaginal candidiasis does not always reflect real situation regarding this disease, since the frequency of patients' self- treatment remains high, as evidenced by the results of the studies based on anonymous surveys. The prevalence of this disease is growing steadily both in Uzbekistan and elsewhere in the world. Accumulated problems have provided grounds to conduct the research on the prevalence of Candida vulvovaginitis in the juvenile age population of Tashkent city. **Method:** The study included examining of 2107 adolescent aged girls of high schools, lyceums and colleges of Tashkent city. **Results:** Thus, in the studied region the prevalence of Candida vulvovaginitis in adolescent population is high, which in turn requires to take steps to further improve treatment and prevention.

UDC CODE & KEYWORDS

■ UDC: 618 ■ Candida infection ■ Prevalence ■ Adolescent girls

INTRODUCTION

According to the world statistics vulvovaginal candidiasis is between 24 and 36% of the infectious lesions of the vulva and vagina (Horowitz, 2003). The prevalence of this disease is growing steadily both in Uzbekistan and elsewhere in the world (Uvarova, et al. 2005; Kasabulatov, 2003). However, the information on the prevalence of vulvovaginal candidiasis does not always reflect real situation regarding this disease, since the frequency of patients' self-treatment remains high, as evidenced by the results of studies based on anonymous surveys (Farage, et al. 2005; Dolzenko, 2006). In our country for the past 10 years the frequency of vulvovaginal candidiasis has doubled. Mycoses are widespread groups of infections caused by a large number (over 200) of different types of pathogenic and opportunistic fungi (Villar, et al. 2005; Eldin, S.S., et al. 2001). Besides, VVC often leads to diminished quality of life, neurotic changes, contributes to the immunodeficiency conditions, endocrinopathies and even to the development of neoplastic processes (Sheary, et al. 2005; Marrazzo, 2003). Despite the large number of antifungal drugs available on the market, the problem of optimal therapy of acute vulvovaginal candidiasis still remains actual. The research of new drugs and treatment schemes, which will be effective for different strains of pathogens and will take into consideration premorbid background of the macro organism, duration of the disease, relapse rate still continues. It has been the basis for this study.

The aim of the research

Accumulated problems have provided basics to conduct the research on the prevalence of Candida vulvovaginitis among the Tashkent city juvenile age population.

Material and methods

The study included examining of 2107 adolescent aged girls of high schools, lyceums and colleges of Tashkent city. According to the scheme approved by the International Symposium on age per iodization, puberty period is divided into adolescence period (girls aged 12 to 15) and youth period (girls aged 16 to 20). The average age of examined puberty aged persons was 16.8 years old. To identify adolescent girls with VVC step by step examination has been performed. The examination included: the survey based on a specially prepared questionnaire, which determined the presence or absence of Candida infection in the lower genital area and examined risk factors for vulvovaginal candidiasis in puberty aged girls; physical examination performed by children's gynecologist; laboratory investigation for the presence of vegetative forms of Candida spp. (budding yeast cells, pseudo mycelium and / or mycelium) and obligate anaerobes in the smears taken from the mucous membranes of the vulva, urethra and then Gram- stained. The data obtained were subjected to statistical analysis on a PC Pentium-IV by the programs, developed in the EXCEL package using a library of statistical functions with the calculation of the arithmetic mean (M), standard error (m), t-test (t) with the calculation of the probability of error (p).

Results

Our study on the prevalence of VVC with Specially designed questionnaire made it possible to identify a group of people who have symptoms of genital infection, possibly caused by Candida spp.

Based on the questionnaire analysis data, a group of people who have had symptoms of vulvovaginitis in the past 12 months was formed. Clinical signs of VVC included various complaints (genital tract discharge of different character and intensity, itching, burning of vulva and painful urination) and objective findings of the disease (genital tract discharge of different character, swelling and redness of the mucous membranes of vulva, urethra and perianal skin).

Table 1: Persons identified with VVC in the juvenile age

Puberty periodization age	Adolescent girls	Youth age girls	Total
	(12-15 years old)	(16-20 years old)	
The number of persons diagnosed with vulvovaginal candidiasis	468 (70.5%)	196 (29.5%)	664 (100%)

Source: Author

According to our data there were 664 persons diagnosed with vulvovaginal candidiasis, which made 31.5% of all adolescent girls who participated in a survey. Characteristic of patients with VVC depending on the puberty age is also presented in tab. 1. Girls – teenagers made 70.5% (468 persons) of patients diagnosed with VVC, youth age girls made 29.5% (196 persons) of patients diagnosed with VVC. It can be seen from the table, the incidence of VVC among adolescent girls living in the studied region is higher than in the youth age girls.

The laboratory stage examination was confirmed by the presence of vegetative forms of *Candida* spp. (budding yeast cells, pseudo mycelium and / or mycelium) and obligate anaerobes in the smears taken from the mucous membranes of the vulva, urethra and then Gram- stained.

Depending on the concentration of yeast-like fungi of the genus *Candida* and the character of associated microflora there were identified two types of vaginal *Candida*-infection: true candidiasis or monoinfection (high concentration of fungi was combined with a high concentration of lactobacilli), and mixed form of bacterial vaginosis and vulvovaginal candidiasis (fungi grew with a predominance of obligate anaerobes).

The results of the study provided in the Table 2 show that VVC among adolescent girls was seen in varying frequency both as monoinfection and in the presence of bacterial vaginosis.

Table 2: Characteristic forms of depending on on the age of the examined patients

Types of vulvovaginal candidiasis	Puberty periodization age		Total
	Adolescent girls	Youth age girls	
	(12-15 years old)	(16-20 years old)	
The number of persons diagnosed with vulvovaginal candidiasis as monoinfection	182 (75.5%)	59 (24.5%)	241 (36.2%)
The number of persons diagnosed with vulvovaginal candidiasis in the presence of bacterial vaginosis	286 (67.7%)	137 (32.3%)	423 (63.8%)
Total	468 (70.5%)	196 (29.5%)	664 (100%)

Source: Author

Discussion

Thus, VCC as monoinfection among surveyed adolescent girls was diagnosed in 182 cases (75.5%), among youth age girls it was diagnosed in 59 cases (24.5%). VVC in the presence of bacterial vaginosis was diagnosed in 286 adolescent girls (67.7%) and in 137 examined youth age girls (32.3%). It is important to note that analysis of the recorded data indicates that individuals in the range of 12-15 years old are more affected by the disease, than the group of 16-20 years old. Conducted researches also have shown that VVC in juvenile age girls in the majority of cases occurs in the presence of bacterial vaginosis.

Conclusion

Thus, in the studied region the prevalence of VVC in adolescent population is high, which requires to take steps to further advance development of treatment and prevention of adolescent population.

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