



## Prevalence of Sexually Transmitted Infections at a Tertiary Care Center in Kathmandu

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### ABSTRACT

**Introduction:** Sexually Transmitted Infections are major public health problem. Lack of sexual and reproductive education, social taboo and peer pressure leads to increased incidence of the disease. Despite all efforts it has been shown that cases of STIs are on the rise. Young people get these diseases because of their risky behaviors and low use of preventive measures. This study tried to find out the prevalence of disease, its causes, and number of partners and use of condoms.

**Methods:** It is a retrospective observational cross sectional study. Patients with sexually transmitted infections (STI) and candidial genital infections getting treatment between January 2018 to December 2020 were included. Gender, age, types of infections, symptoms and sexual history were recorded. Ethical clearance was taken from Institution Review Committee (Ref.No.245). Statistical analysis was expressed in frequency and percentage. Chi square test was applied to determine the significance of variables.

**Results:** Most common infection seen in patients was urethral discharge 31.1% followed by anogenital wart 18% and 14.2% patients had genital ulcer. About 30.1% of patients had multiple partners. Candidial infection in genital area was diagnosed in (35.5%). Condoms was more frequently used by men.

**Conclusions:** Urethral discharge and candidial infections were most common. The prevalence of infection in males were higher and 30 to 39 years of age group was most affected. Having multiple sex partners and not using condoms was major cause of transmission. More emphasis has to be laid upon sexual and reproductive health education.

**Keywords:** Prevalence; Reproductive health; Sexually Transmitted Infections

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## INTRODUCTION

Sexually Transmitted Infections (STI) is prevalent predominantly in younger age group worldwide. Lack of proper sexual and reproductive education, social taboo, and peer pressure about it leads to increased incidence of the disease. It is a major public health problem worldwide due to which people suffer from acute illness, long-term complication, infertility, medical as well as psychological consequences and death.<sup>1</sup> It is a big economic and social burden to any country. In 2012, 498.9 million new cases of STIs occurred worldwide and on an average about 1.4 million people are infected with STIs every day.<sup>2</sup> Despite all efforts by the government it has been shown in many countries that cases of STIs are on the rise. Young people are at high risk of getting these diseases because of their risky behaviors, low use of preventive measures and paucity of services in developing nations.<sup>3</sup> Young people, who have less access to quality health care services or due to social and cultural reluctance are unable to seek help, such as university students are at high risk of STIs.<sup>4</sup> In spite of the continued increase in the prevalence of STIs in various parts of world, relatively little epidemiological research has been carried out on the prevalence and associated risk factors of STIs.<sup>5</sup> This study will give an insight about how prevalent the disease is and hence it will help introduce various programs at community level.

## METHODS

It is a cross sectional hospital based study of retrospective data. All the inpatients of sexually transmitted infections and candidial infections of genitalia which included vulvo-vaginal candidiasis (VVC) and balanoposthitis getting treatment from Department of Dermatology Shree Birendra Hospital, Chhauni, Kathmandu, Nepal, between January 2018 to December 2020 were included. Patient registration and history, observation using checklist was done and data entered. Gender, age and types of sexually transmitted infections among patients was recorded and the details of symptoms of the disease was taken. The details of sexual behavior which includes number of partner, duration and frequency of exposure, use of contraceptive was recorded. Patients were treated in the department and no charge was taken from them for investigations and management.

Ethical clearance was taken from Institution Review Committee (Ref.No.245/reg411). The statistical analysis was done using SPSS (Statistical Package of Social Sciences) Version 20.0 Statistical Analysis Software. The descriptive statistical analysis of the study was done after the collection of the data and result was expressed in frequency and percentage and chi square was applied to determine the significance of variables.

## RESULTS

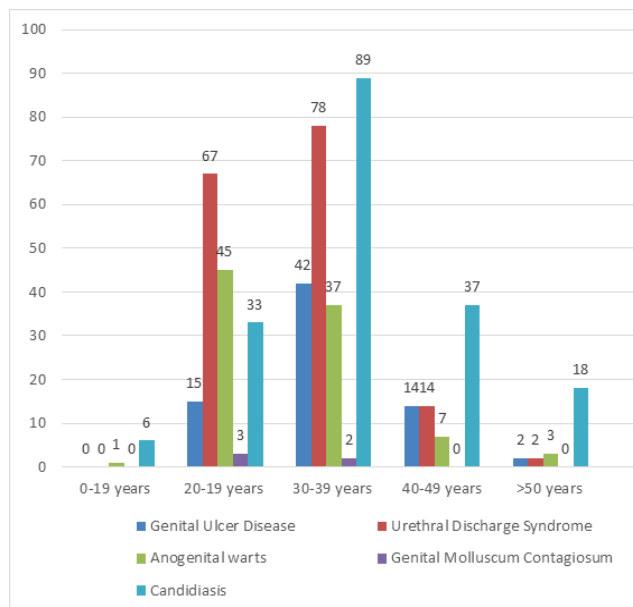
A total of 514 people were included in the study out of which 452(87.9%) were males and 62(12.1%) were females. Maximum patients suffered from urethral discharge 160(31.1%), followed by Anogenital wart 93(18%), Molluscum contagiosum in the genital area 5(0.9%). Seventy three (14.2%) patients had genital ulcer of which Syphilis 43(58.9%) and 30(41.1%) had Herpes genitalis. Genital candidiasis (Balanoposthitis or Vulvovaginal candidiasis) was diagnosed in 183(35.5%) patients.

Altogether 452(87.9%) males and 62(12.1%) females were having sexually transmitted infections. Urethral discharge syndrome was most the common among males. Out of these 452 male patients having genital ulcer, primary chancre of syphilis was seen in 37(8.1%) and herpes genitalis in 24(5.3%). Out of 62 females vulvo-vaginal candidiasis was the commonest infection and among those who suffered from genital ulcer, syphilis and herpes genitalis was seen in 6(9.6%) patients each. Gender wise distribution of disease is given in Table 1.

**Table 1.** Gender Wise Distribution of Disease.

Disease	Male, N= N (%)	Female, N= N (%)
Genital Ulcer (n=73)	61(83.5%)	12(16.4%)
Urethral Discharge (n=160)	158(98.7%)	2(1.3%)
Anogenital Wart (n=93)	72(77.5%)	21(22.5%)
Candidiasis (n=183)	157(85.8%)	26(14.2%)
Molluscum Contagiosum(n=5)	4(80%)	1(20%)

Out of 514 patients 507 were adults and 7 were adolescents. Among these adolescents candidial infection in genitalia was seen in 6 persons. Maximum number of patients who had STIs belong to 30 to 39 years of age group 248(48.2%) followed by 20 to 29 years group 163(37.1%). Age wise distribution of disease is given in Figure 1.



**Figure 1.** Age Wise Distribution of Disease

Among 514 patients 355(69.1%) said they had single partner whereas 159(30.1%) said that they had multiple sexual partners (MSP). Among these 159 patients 141(88.6%) males and 18 (11.4%) females had multiple partners and out of 7 adolescents 2(28.2%) had multiple partners. Condom was used significantly more frequently in males 221(48.8%) than in females 20(32.2%), p value 0.01.

**DISCUSSION**

This study was done to find out the prevalence of sexually transmitted infections in this hospital. Study included the patients with STIs, VVC and balanoposthitis. Altogether 514 patients were included in the study. The age group which was most affected in this study was between 30 to 39 years as compared to a study conducted by Karn et al where maximum people belonged to 20 to 24 years age group.<sup>6</sup> A similar study in Ethiopia showed the highest reported rates of STIs are found among 15–24- year old.<sup>3</sup> In this study 12.1% females were suffering from STI as compared to 87.9% males similarly in the studies conducted at Addis Ababa and Dhulikhel hospital

the number of females having STIS were less than the males.<sup>3,6</sup> The number of females who visited STI clinic was less than the males and it could be due to the social taboo prevalent in this society, availability of facilities as and when required and expense. Use of condoms was more frequent in males (48.8%) as compared to females (32.2%), p value 0.01. The main reason which could be attributed to this is that the women who are financially, materially or socially dependent on men may have limited power to exercise control in relationships, such as negotiating the use of condoms during sex and social expectations about how women should behave can place women in subordinate roles and increase their risk of being sexually assaulted, contracting STIs and having unwanted pregnancies.<sup>7</sup> Having multiple sexual partners increases the probability of STIs and in our study 30.1% had multiple sex partners and gender wise 88.6% males and 11.4% had MSP as compared to this a study conducted in Malawi showed that 69% of males and 35.4% of females had MSP.<sup>8</sup> A study in Zimbabwe found that 40% males and 6% females had multiple sex partners.<sup>9</sup> Lack of proper education about sexual and reproductive health, peer pressure and use of alcohol can be the main cause of having MSP.

Urethral discharge was found in 31.1% patients and most of them complained of copious discharge with severe dysuria. In a study conducted at a tertiary care center in Bengaluru 68% had urethral discharge with dysuria as the presenting symptom.<sup>10</sup> Multiple sexual contact and not using condoms can be attributed to this. Most of these patients suffered from gonococcal urethritis which was diagnosed with gram staining with finding of gram negative diplococci in microscopy.

Ano-genital wart was seen in 18% in our study as compared to Dhulikhel study where genital viral infection was found in 41.7%.<sup>6</sup> The prevalence of genital warts is 1% among sexually active population of the United States.<sup>11</sup> Human papillomavirus types 6 and 11 are responsible for most genital warts. Warts vary from small, flat-topped papules to large, cauliflower-like lesions on the anogenital mucosa and surrounding skin.

Genital ulcer was diagnosed in 14.2% of patients as compared to genital ulcer in a study in Jamaica showed the prevalence rate was 12.8%, for men with (18.2%) and women (6.8%; p < 0.001).<sup>12</sup> It has

been noted that patients may not come to the hospital for the treatment until the symptoms are severe and in case of primary chancre since lesions resolve after some time, so it becomes difficult to demonstrate the exact data. Due to lack of awareness about the disease patients don't get proper treatment and they come to clinic at a later stage or are detected during screening.

VVC is not traditionally considered a STI and on occasion sexual transmission of *Candida* can occur during vaginal intercourse.<sup>13</sup> In our study 35.5% suffered from genital candidial infection which included vulvo- vaginal candidiasis and balanoposthitis. More males (85.8%) came to clinic for the treatment than the females (14.2%). A study in Ethiopia showed overall prevalence of vulvovaginal candidiasis to be 41.4%.<sup>14</sup> Females came with white curdy discharge and itching. The reason for low prevalence of VVC in our study could be because in the society for females to go for medical consultation without any symptoms of STI is rare, however males have visible symptoms which include erythema of glans and prepuce with pruritus and they have easily access to clinics.

## CONCLUSION

The study found that the prevalence STIs in males were higher than females and 30 to 39 years of age group was most affected. Having multiple sex partners and not using condoms was major cause of transmission. More emphasis has to be laid upon sexual and reproductive health education and better and easily accessible medical facility should be made available to the patients as and when required.

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