

Original Article**Pattern of Sexually Transmitted Infection in Tertiary Care Center of Eastern Nepal****Manish Pradhan*, Anjan Rai, Sunita Karki, Srijana KC**

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Article Received: 12th January, 2026; Accepted: 23rd April, 2026; Published: 30th June, 2026**DOI: <https://doi.org/10.3126/jonmc.v15i1.96389>****Abstract****Background**

Sexually transmitted infections remain a major public health concern globally, particularly in low- and middle-income countries. Understanding their prevalence at the healthcare level helps plan early diagnosis, treatment, and prevention strategies. To determine the epidemiological, clinical pattern of sexually transmitted infections among patients attending the Dermatology and Venereology outpatient department of a tertiary care center in the eastern region of Nepal and identify associated demographic and risk factors.

Materials and Methods

This was a cross-sectional study of the data obtained from cases of sexually transmitted infections attending the Dermatology and Venereology outpatient of a tertiary care hospital in Biratnagar from 1st April 2024 to 30th March 2025. The demographic details, clinical diagnosis and investigation findings were recorded and analyzed using SPSS 27. Routine laboratory investigations along with sexually transmitted infections workup was done. All the patients visiting dermatology outpatients, with complains of sexually transmitted infections were included in our study.

Results

The age of presentations ranged from 18 years to 77 years. Maximum number of cases (n=170, 47%) were in the age group of 21 to 30 years. 233 (64.72%) were males and 127 (35.2%) were females. Syphilis was the most common diagnosis (n=193, 53.6%). Herpes genitalis (n=60, 16.7%) was the second most common followed by condyloma acuminata (n=55, 15.3%). Foreign workers constituted the largest proportion of participants.

Conclusion

Syphilis was the common presentation followed by herpes genitalis and condyloma acuminata. Sexually transmitted infections were common in young age and male sex.

Keywords: Sexually transmitted diseases, Syphilis, Herpes Simplex, Sexual behavior

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Citation

Pradhan M, Rai A, Karki S, KC S, Pattern of Sexually Transmitted Infection in Tertiary Care Center of Eastern Nepal, JoNMC. 15:1 (2026) 79-83. DOI: <https://doi.org/10.3126/jonmc.v15i1.96389>



Introduction

Sexually transmitted diseases (STDs) are communicable diseases transmitted through sexual contact and are caused by bacterial, viral, protozoal, and fungal agents. Sexually transmitted infections (STIs) remain a major global public health concern due to their association with infertility, adverse pregnancy outcomes, and increased risk of human immunodeficiency virus (HIV) transmission. According to the World Health Organization, more than one million curable STIs are acquired daily worldwide, while millions continue to be affected by infections such as syphilis and genital herpes [1, 2].

In Nepal, prevention and control of STIs are challenged by sociocultural factors, labor migration, and limited access to sexual health services. Although syndromic management and HIV prevention programs are emphasized, comprehensive epidemiological data on STIs other than HIV remain limited. Previous studies conducted in Nepal have documented varied patterns of STIs and gaps in awareness regarding infection and prevention methods [3].

The objective of this study was to assess the prevalence and clinical pattern of sexually transmitted infections among patients attending a tertiary care centre in eastern Nepal, and to analyse the associated sociodemographic characteristics and sexual behaviours of the affected individuals in Eastern region of Nepal.

Materials and Methods

This was a cross-sectional study conducted among patients attending the Dermatology and Venereology outpatient department with sexually transmitted infections (STIs). Demographic details, sexual and behavioural history, and clinical findings were recorded using a structured proforma. Detailed general, cutaneous, and genital examinations were performed in all patients. Routine laboratory investigations along with standard STI workup were carried out whenever indicated.

The study was conducted at Nobel Medical College Teaching Hospital from 1st April 2024 to 30th March 2025. Data were obtained from the patients attending the Dermatology and Venereology outpatient department during the study period.

Ethical approval was obtained from the Institutional Review Committee (IRC) prior to commencement of the study. Patient confidentiality

and privacy were strictly maintained throughout the study. Informed consent was obtained from patients wherever applicable.

Inclusion Criteria

- All patients attending the dermatology outpatient department with clinical features suggestive of sexually transmitted infections.
- Patients with clinically diagnosed or laboratory-confirmed STIs.
- Patients providing informed consent.

Exclusion Criteria

- Patients not willing to participate
- Patients with incomplete clinical or laboratory data
- Patients without confirmed STI diagnosis
- Patients already receiving treatment for STI (if applicable)

The sample size was calculated based on 50% assumed prevalence of hospital-based studies of STI patterns. Using a 95% confidence level ($Z = 1.96$), 7% margin of error, and accounting for a 10% non-response rate, the required sample size 196 was determined using the formula: $N = Z^2 \times p(1-q)/e^2$. However, all the 360 participants in the study period were enrolled for the study. A convenient sampling technique was used, and all eligible patients during the study period were included in the study. The demographic details, clinical diagnosis, and investigation findings were extracted from the records and entered into Microsoft Excel and analyzed using the Statistical Package for Social Sciences (SPSS) version 27. Descriptive statistics such as frequency and percentage were used to summarize the data.

Results

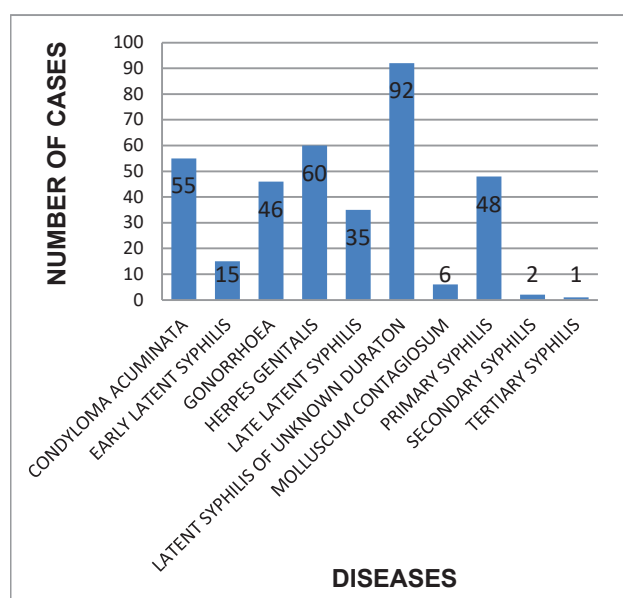
In 360 participants, age group 21-30 years had maximum cases of STI with 170 cases (47.2%). Among the total 360 participants, 233 (64.7%) were male and 127 (35.2%) were female. This indicates a clear male predominance in individuals presenting with sexually transmitted infections in our tertiary care centre. In the present study, the highest proportion of sexually transmitted infections (STIs) was observed among foreign employees (26.9%), followed by drivers (20.0%), office workers (17.5%), daily wage workers (14.4%), students (13.6%), and housewives (7.5%). Foreign employees constituted the largest occupational group affected by STIs in the study population. Out of 360 participants,



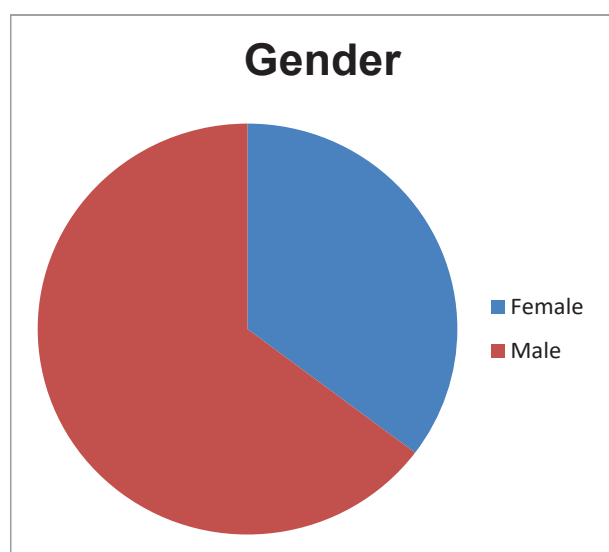
135 (37.5%) reported having multiple sexual partners, whereas 225 (62.5%) reported a single partner. Also, 98 cases male had multiple partners compared to 37 females who had multiple partners.

Table 1: Showing age distribution in STI

AGE	FREQUENCY	PERCENT
11-20	28	7.9
21-30	170	47.2
31-40	105	29
41-50	43	11.9
51-60	11	3.1
61-70	2	0.6
71-80	1	0.3
Total	360	100.0



Bar diagram 1: Showing disease prevalence of STI



Pie chart 1: Showing gender distribution

This highlights that a considerable proportion of cases were associated with a history of multiple partners, which is an important behavioural risk factor for STIs. Age group 21-30 had highest number of multiple sex partners. 80% of married population had STI. 38 % of married participants with multiple partners had STI in comparison to married with single partner.

Among the 360 patients included in the study, the most common sexually transmitted infection was latent syphilis of unknown duration, accounting for 92 cases (25.6%). This was followed by herpes genitalis in 60 cases (16.7%), and condyloma acuminata in 55 cases (15.3%). Gonorrhoea was observed in 46 patients (12.8%). Early latent syphilis accounted for 15 cases (4.2%), whereas late latent syphilis constituted 35 cases (9.7%). Among the stages of active syphilis, primary syphilis was reported in 48 cases (13.3%), secondary syphilis in 2 cases (0.6%), and tertiary syphilis in 1 case (0.3%). Molluscum contagiosum was identified in 6 patients (1.7%). Overall, syphilis in various stages formed a major portion of STI diagnosis.

Discussion

Assessing patterns of STI in tertiary centre of eastern region of Nepal was our main objective. The study includes a total of 360 participants with age ranging from 18 years to 77 years and maximum no of cases were seen among the age group of 21-30. Paudel U et al. and Karki A et al, in their studies have also reported similar findings where the highest burden was amongst similar age group of young population [4, 5]. This predominance of STI cases in 21-30 years age group reflects peak period of sexual activity, multiple sexual partners, and greater engagement in high-risk behaviours in this age range. Limited sexual health awareness and increased health care seeking behaviour in developing country like Nepal may contribute to high prevalence.

In our study, sexually transmitted infections were more commonly detected among males. Among the total 360 participants, 233 (64.7%) were male and 127 (35.3%) were female. This male predominance was also seen in study done by Paudel U et al., Karki A et al., and Thapa et.al [4-6]. Several factors may explain this pattern. First, a significant proportion of adult males in our population travel abroad for employment. Many of these individuals undergo mandatory



medical screening required for foreign employment, which increases the likelihood of STI detection in men compared to women. Secondly, Eastern Nepal's open border with India facilitates frequent cross-border mobility, including short-term migration and high-risk sexual behaviours among mobile male populations. These factors collectively contribute to higher STI reporting and diagnosis among males. Higher prevalence of sexually transmitted infections seen among migrant workers followed by drivers may be attributed to occupational mobility, prolonged separation from partners, and increased likelihood of high-risk sexual behaviour.

In our study, syphilis accounts for maximum cases. Latent syphilis of unknown duration was the commonest (25.6%), followed by primary syphilis (13.3%), late latent syphilis (9.7%), and secondary syphilis (2%) and one case of tertiary syphilis. All cases of syphilis were TPHA (*Treponema Pallidum* Hemagglutination) positive. VDRL titer had ranged from 1:2 to 1:64. Diagnosis of primary syphilis was clinical, all cases presented with single, indurated non tender ulcer in the genitalia. Both the cases of secondary syphilis had condyloma lata. One case of tertiary syphilis was noted which had presented as transverse myelitis with CSF analysis which was reactive for VDRL and pleocytosis. Paudel U et al, Thapa et al., in Nepal revealed a rising trend in syphilis cases [4, 6]. The reason for this could be due to the screening of syphilis during pregnancy, as a part of preoperative investigation in our hospital and also the screening of Nepali migrant workers for their working visa before they visited a foreign country. Genital herpes was among the second most common STIs in our study accounting for 60 (16.7%) cases. Genital herpes was diagnosed on the basis of clinical findings. Genital herpes is the leading STIs according to the WHO [1]. In study by Karki A et. al genital herpes was the third common case[7]. However, in contrast to our study, study done by Paudel S. et al. had the least number of cases [8].

Condyloma acuminata was diagnosed on the basis of clinical findings. Out of 360 cases, 55 cases (15.3%) and was third common disease in our study. While in a study by Karki A et al. and Paudel S. et al. , condyloma acuminata (53.5%) was the most common [7, 8]. Gonorrhoea was observed in 46 patients (12.8%). Most cases of urethral discharge had Gram negative diplococ-

ci in the urethral swab smear. Gonorrhea was second most common in Karki A et al. and third most common in Paudel S et al while most common in study by Pandey et al [7–9]. Eastern Nepal demonstrates a focused STI burden among young, mobile, and high-risk groups. Strengthening laboratory diagnostics, expanding targeted prevention and education programs, promoting early screening, and improving partner notification systems are critical steps to reducing STI transmission and long-term complications in this region.

Conclusion

The present study showed that sexually transmitted infections were common among young adults, particularly those aged 21-30 years, with a clear male predominance. Multiple sexual partners and certain occupational groups were identified as important associated risk factors. Syphilis, mainly latent syphilis of unknown duration was the most common STI, followed by herpes genitalis and condyloma acuminata. These findings highlight importance of awareness program, early diagnosis by regular screening and safe sexual practice to reduce the burden of STI in high-risk populations.

Acknowledgement: None.

Conflict of interest: None.

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