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Statistical Modelling of Barriers to Treatment-Seeking Behaviour Among Patients with Sexually Transmitted Infections

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Abstract

Introduction

Treatment seeking behaviour refers to the actions and decisions taken by individuals when they perceive themselves to have a health problem, in order to find an appropriate remedy or treatment. The majority of STIs are treatable, but several social and behavioral variables make it difficult to seek medical attention in a timely manner, increasing the burden of untreated infections.

Objective

This study aimed to assess the treatment-seeking behaviour using statistical modelling among patients with sexually transmitted infections.

Methods

A hospital-based cross-sectional study was employed to collect data from 194 STIs patients from March 2025 to October 2025, using a face-to-face interview. Data were collected using a pretested structured interviewer- administered questionnaire. A systematic sampling method was used to select study participants. Binary logistic regression analysis was used to identify factors associated with treatment seeking behaviour

Results

Half of the respondent (51.1%) reported that they had multiple sexual partners and more than half of the respondents (55.9%) were engaged in unprotected sexual intercourse. The proportion of delayed health care seeking for STI was 54.1% and more than half (54.6%) of the respondents who were referred for treatment of STIs. Predominant reasons reported for delay of health care seeking by respondents were: fear of stigmatization and disclosure (76.3%) followed by much waiting time in the facility (69.1%) and feeling of shame (64.4%). Illiteracy was strongly associated with delayed treatment (AOR = 19.52, 95% CI: 2.52-150.54). Poor awareness and knowledge of STIs were also strongly associated with delayed treatment (AOR = 7.89, 95% CI: 2.95–21.13).

Conclusions

This study reported a high proportion of delayed health care seeking and there were several barriers to accessing STI services, they were related to both structural and individual factors. This may challenge the prevention and control effort and alarms the potential threat to the spread of STI/HIV in the region. Provision of intensive health education is crucial to improve awareness and to avoid risk behaviours and negative perceptions.

1 Introduction

Treatment seeking behaviour has been defined as any action undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy [1]. Treatment seeking behaviour is preceded by a decision-making process that is further governed by individuals and/or household behavior, community norms, and expectations as well as provider-related characteristics and behavior [2]. Sexually transmitted infections (STIs) have been recognised as major global health issues because of their incidence, prevalence, contribution to mortality, and morbidity and caused by bacteria, virus, or parasite [3]. Additional routes through which sexually transmitted infections may be spread are unprotected sexual contact and exposure to infected blood or blood products, peripartum and lactational routes during pregnancy, childbirth and breastfeeding [4]. Currently there are over 30 pathogens, including bacterial, viral, and parasite that can cause STIs [5–7]. The most prevalent STIs we interact with on a regular basis are gonorrhoea, chancroid, syphilis, and chlamydial infections, which can be treated, and the more serious ones include HIV, genital herpes, HPV, and Hepatitis B infection, which are incurable but may be managed with the aid of currently available medications [8]. Over 1 million STIs are acquired daily in individuals aged 15 to 49 worldwide, and the vast majority of these infections remain asymptomatic, making STIs a significant health burden [6]. Since STIs primarily impact young people in both developed and developing countries, it is crucial to have a thorough awareness of the symptoms, modes of transmission, and preventative strategies in order to reduce the risk of sexual transmission and the prevalence of STIs [9]. Migration and mass urbanization in response to the increased prevalence of STIs in megacities and urban areas [10]. STI prevention and control provide a wide range of benefits and help to achieve the Sustainable Development Goals (SDGs) of providing sexual and reproductive health care, eliminating infant mortality, and combatting infectious illness. The WHO released its Global Health Sector Strategy on STIs in 2016 with the aim of putting an end to the STI epidemic by 2021, but its achievement remained inconclusive. By 2030, the Global Health Sector Strategy on STIs aims to reduce gonorrhea infections by 90%, syphilis cases by 90%, and congenital syphilis cases by 50 or less per 100,000 live births in 80% of nations [11]. Awareness and knowledge about STIs may play a major role in determining treatment-seeking behaviour, lack of knowledge of STIs may lead to a delay in treatment and complicate the infection process [12–15]. Most of the women with STIs utilize self-prescribed drugs instead of seeking treatment at medical facilities, and women with self-reported STI symptoms do not seek treatment because of sexual and reproductive health taboos and inhibitions [16]. Delayed treatment or an untreated infection could lead to acute illnesses such as inflammation of the cervix, urethritis and ulceration of the genitals, harsh conditions such as pelvic inflammatory diseases, ectopic pregnancy, infertility, cardiovascular diseases, blindness, severe or long-term disability in infants and finally death [17]. STI patients' timing of seeking medical attention is frequently impacted by a variety of factors, including socio-demographic, cultural, behavioural, and economic circumstances, physical and financial accessibility, healthcare services, autonomy, and knowledge of STI [14]. Additionally, cultural traditions and the patients' access to healthcare affect how long it takes STI patients to seek medical attention [18].This study aimed to assess the treatment-seeking behaviour using statistical modelling among patients with sexually transmitted infections attending a tertiary care hospital in Eastern Uttar Pradesh.

2 Material and methods

2.1 Study area and period

The present study was conducted in a tertiary care hospital, at STI clinic of the Department of Dermatology & Venereology of Autonomous State Medical Kushinagar, Uttar Pradesh. The Study was conducted from March 2025 to October 2025.

2.2 Study design and participants

The present study was a hospital-based cross-sectional study and interview schedule was used as the main tool of data collection. A systematic sampling method was used to select study participants. The following inclusion criteria were used: (i) The purpose of study along with pros and cons were explained to each participant then written informed consent was obtained from all participants (ii) clinically suspected cases of STI in age group of 15–60 years, were enrolled.

2.3 Sample size determination

A single population proportion formula used to estimate the minimum sample size $N = Z^2_{1-\alpha/2}P^*(1-P)/\square^2$, from previous study done in Eastern Uttar Pradesh, the proportion of awareness level among STIs patients was 14%, [22], 95% confidence level (Z-score value: 1.96) and 5% absolute error, the estimated minimum sample size was approximately 185 (Z= 1.96; P = 0.14; ▯ = 0.05). Adding 5% of the minimum sample size for the expected nonresponsive rate, a final sample size of 194 was obtained.

2.4 Variables of the study

The outcome variable in this study was treatment seeking behaviour for STIs. It had two categories (1) Time of treatment seeking for STIs, further it was divided in two sub response categories (i) Early seeking behaviour and (ii) Delayed seeking behaviour (2) Type of treatment care, it was also divided in two sub categories (i) Care sought from formal health facilities and (ii) Care sought from informal health facilities.

Study variables used to determine the factors influencing treatment seeking behaviour for STIs included socio-demographic subject characteristics such as age, sex, religion, caste, place of residence, sexual orientation, marital status, level of education completed, type of family, occupation, socioeconomic status and awareness and knowledge about STIs.

2.5 Statistical analysis of data

The data were coded, checked, and processed with version 26 Statistical Package for the Social Sciences (SPSS). Descriptive statistics, such as means, standard deviations (SD), frequencies, and proportions, were used to summarize variables. Chi-square tests were used to identify associations between categorical variables. Significance level was set at 0.05 and all of the analyses were two tailed. Logistic regression analysis was conducted to determine significant predictors of outcomes with estimation of the odds ratio and 95% CI (Confidence Interval). Only explanatory variables found to be significantly associated in the Chi-square analyses were entered into the logistic regression model to access the association between treatment seeking behaviour and independent variables. The odds ratios presented for each variable in the first set of regression analysis were adjusted for demographic factors, and awareness and knowledge about STIs. It was used again in the second set of logistic regressions to assess the influence of the independent variables on treatment seeking behaviours of STIs. This second set of analyses was done separately for early versus delayed treatment seeking and formal versus informal health facilities; their odds ratios were then compared.

2.6 Operational definition

2.6.1Time of treatment seeking for STIs

The extent of time of treatment seeking was defined to the patient “How long day did someone wait or postpone before seeking treatment at the health facility after noticing the first symptoms of sexual transmitted infection?” It has two response categories: Early treatment seeking refers to patients who seek care and/or advice within 7 days of the onset of the STI symptoms. And delayed treatment seeking refers to patients who seek care and/or advice after 7 days of the onset of the STI symptoms [14, 19].

2.6.2 Formal/Informal health facilities

Formal health facilities were characterized in this study as seeking treatment in conventional health facilities, such as private clinics, primary health centers, and general hospitals, or consulting a certified medical professional during periods of illness or any other circumstance requiring medical attention [20, 21]. Informal health facilities include getting medical care from chemists, pharmacist without a prescription, traditional healers, family members, patent medicine vendors (PMVs), self-treatment, or doing nothing at all. Traditional healers are untrained individuals who use conventional non-medical techniques to treat patients. Patent Medicine Vendors (PMVs) or chemists are nonqualified persons who sell drugs without medical prescription [22].

2.6.3 Good/Poor awareness and knowledge

Good awareness, and knowledge was defined as those who scored the median and above value of knowledge-related questions and poor awareness, and knowledge was defined as those who scored below the median value of awareness, knowledge-related questions [14, 23].

2.6.4 Patients with STIs

STIs are defined in this study as a positive result for one or more HIV, HBV, HCV, herpes, and syphilis or patients who had one or more STI symptoms, including lower abdominal pain, urethral discharges, vaginal discharges, penile ulcers or vulva or vaginal ulcers, perineal ulcers, genital or perineal warts,

painful micturition, and other STI symptoms [24].

2.7 Ethical consideration

We confirm that our research was conducted in accordance with the Declaration of Helsinki. We obtained approval from Institutional Ethics Committee (IEC) of the Autonomous State Medical College, Kushinagar with approval number- ASMC/KUS/EC/2K25/05, dated 06/03/2025. Informed consent was obtained from all participants involved in the study. The participants were ensured that their responses would be treated in confidence. Additionally, they were guaranteed anonymity and told that they might decline or cancel the interview at any moment without providing a reason.

3 Results

Socio-demographic characteristics of respondents

A total 194 clinically suspected cases of STIs aged 15 – 60 years with mean age (± SD), 32.8 (± 9) years were enrolled in this current study. (Table 1) summarizes the key socio-demographic characteristics of the study subjects. More than two third of respondents were male (71.6%), majority were Hindu (87.6%) and heterosexual (85.1%) in nature. largest group of respondents (38.7%) was in the age category of 25–34 years. More than half (61.3%) of the respondents were from rural area. Most of the respondents (88.1%) were literates.

Sexual behaviour related characteristics

(Table 2) describes the half of the respondent (51.1%) reported that they had multiple sexual partners. More than half of the respondents (55.9%) were engaged in unprotected sexual intercourse, (54.3%) were engaged in paid sexual intercourse and nearly one third (31.5%) reported that they used drugs to enhance their sexual experience only some time.

Treatment seeking behaviour of respondents seeking treatment for STI in public health facilities at tertiary care hospital

More than half (64.4%) of the respondents who taken formal treatment. The proportion of delayed health care seeking for STI was 54.1% and more than half (54.6%) of the respondents who were referred by somewhere else to this facility for treatment of STIs (Table 3).

Reasons for delay in health care seeking for STI

The predominant reasons reported for delay of health care seeking by respondents were: fear of stigmatization and disclosure (76.3%) followed by much waiting time in the facility (69.1%) and feeling of shame (64.4%) respectively. (Fig. 1)

Odd ratio and Adjusted odd ratio for delayed treatment seeking behaviors with respect to independent variables

Binary logistic regression analysis was applied to identify factors associated with the delayed health care seeking behavior of patients who experienced STIs. In a bivariable logistic regression analysis, eight variables, such as age, educational status, occupation, marital status, religion, socio-economic class, awareness, and knowledge about STI, were significantly associated with the delayed health care seeking behavior of respondents. (Table 4) However, after adjusting for other factors, the result of the multivariable logistic regression analysis shows that educational status, religion, and socio-economic status were significantly associated with the delayed health care seeking behavior of respondents who experienced STIs. The odds of delay in seeking health care were 19 times higher in illiterate people (AOR = 19.52, 95% CI: 2.52-150.54), 13.8 times higher among respondents who had primary and middle education (AOR = 13.76, 95% CI: 2.12 89.44), and 13.5 times higher among respondents who had high school and intermediate educational qualifications (AOR = 13.47, 95% CI: 3.39–53.36) as compared to those who had higher education (graduate and above). Respondents who were belong to the lower middle class and lower class of socio economic status were approximately 4 and 6 times more likely to seek delayed treatment [(AOR = 3.83, 5.89, 95% CI: 1.17–12.58, 1.58–22.09)] as compared to those with upper class of socio economic status. (Table 4)

Odd ratio and adjusted odd ratio for informal treatment-seeking behaviours of respondents with respect to independent variables

Binary logistic regression analysis was applied to identify factors associated with informal treatment-seeking behaviours of respondents who experienced STIs. In a bivariable logistic regression analysis variables, such as age, educational status, occupation, marital status, religion, socio-economic class, awareness, and knowledge about STI, were significantly associated to care sought by respondents from informal health facilities. (Table 5), However, after adjusting for other factors, the result of the multivariable logistic regression analysis shows that educational status, socio-economic status, and awareness about STIs were significantly associated with informal treatment taken by respondents. The odds of care sought from informal health facilities were 4 times higher among illiterate (AOR = 4.45, 95% CI:1.74–26.96), 3.3 times higher among respondents who had primary and middle education educational qualifications (AOR = 3.32, 95% CI: 1.59–18.80), as compared to those who had higher education (graduate and above). Respondents who were belong to the lower class of socio economic status were 2 times more likely to seek from informal health facilities (AOR = 2.31, 95% CI: 1.6–4.18) as compared to those with upper class of socio economic status. The odds of care sought from informal health facilities were 7.8 times higher among respondents who had poor awareness of STIs (AOR = 7.89, 95% CI: 2.95–21.13) and 2.5 times higher among respondents who had poor knowledge of STIs as compared to those with good awareness and good knowledge of STIs (Table 5)

Table 1
Socio-demographic characteristics of respondents in public health facilities at tertiary care hospital in Eastern Uttar Pradesh

Variable	Categories	Frequency	Percent
Sex	Male	139	71.6
	Female	55	28.4
Age	18–24	37	19.1
	25–34	75	38.7
	35–44	58	29.9
	≥ 45	24	12.4
Religion	Hindu	170	87.6
	Muslim	24	12.4
Place of residence	Rural	119	61.3
	Urban	75	38.7
Type of family	Nuclear	94	48.5
	Joint	100	51.5
Qualification	Illiterate	23	11.9
	Primary & Middle	27	13.9
	High School & Intermediate	72	37.1
	Higher Education	72	37.1
Caste	OBC	106	54.6
	General	47	24.2
	SC/ST	41	21.1
Occupation	Students	30	15.5
	House maker	43	22.2
	Gov / Private Services	59	30.4
	Migrant Labourers	40	20.6
	Drivers	18	9.3
	Farmers	8	4.1
Sexual orientation	Heterosexual	165	85.1
	Bisexual	29	14.9
Marital Status	Married	147	75.8
	Unmarried	47	24.2
Socio Economic Classes	Upper class	39	20.1
	Upper middle class	30	15.5
	Middle class	29	14.9
	Lower middle class	53	27.3
	Lower class	43	22.2

Table 2
Sexual behavior related characteristics of sexually active respondents in past 3 months (N = 184) in public health facilities at tertiary care hospital in Eastern Uttar Pradesh

Variable	Category	Frequency (%)
Number of sexual partners	Single	90(48.9)
	Multiple	94(51.1)
Sexual partners	Known	83(45.1)
	Unknown	101(54.9)
Types of sexual intercourse	Unprotected intercourse	103(55.9)
	Protected intercourse	81(44.1)
Paid and unpaid sexual intercourse	Paid	100(54.3)
	Unpaid	84(45.7)
Sexual Intercourse in drunken state	No	114(61.9)
	Yes	70(38.1)
Ever taken any drugs/ alcohol before sex	No	101(54.9)
	Yes	83(45.1)
Ever used drugs to enhance your sexual experience	Most of the time	10(5.4)
	Only some time	58(31.5)
	Not at all	116(63.1)

Table 3
Treatment seeking behaviour of respondents seeking treatment for STI in public health facilities at tertiary care hospital in Eastern Uttar Pradesh

Variable	Category	Frequency (%)
Treatment taken in first step	Formal Treatment	125(64.4)
	Informal Treatment	69(35.6)
Stage at which go to health care provider	In early stage / mild onset of symptoms	89(45.9)
	moderate onset of symptoms	42.8)
	In serious stage	22(11.3)
Time of health care seeking	Early health care seeking	89(45.9)
	Delayed health care seeking	105(54.1)
Treatment seeking approach to this facility	Direct walk	88(45.4)
	Referred	106(54.6)

Reasons for delay in health care seeking for STI

Table 4
Odd ratio and Adjusted odd ratio for delayed treatment seeking behaviors with respect to independent variables

Variables	Treatment-Seeking Behaviour		Crude OR (95%CI)	Adjusted OR (95%CI)
	Early	Delayed		
	Number (%)	Number (%)		
Age Group (in years)				
15–24	25(67.6)	12(32.4)	1	1
25–44	56(42.1)	77(57.9)	2.87(1.33–6.18) **	2.35(0.65–8.53)
45–60	8(33.3)	16(66.7)	4.17(1.39–12.43) **	1.52(0.28–8.21)
Educational Status				
Illiterate	5(21.7)	18(78.3)	12.60(4.05–39.24)***	19.52(2.52-150.54)**
Primary and Middle	6(22.2)	21(77.8)	12.25(4.22–35.49)***	13.76(2.12–89.44)**
High School & Intermediate	22(30.6)	50(69.4)	7.95(3.76–16.81)***	13.47(3.39–53.36)***
Graduate and above	56(77.8)	16(22.2)	1	1
Occupation				
Student	22(73.3)	8(26.7)	1	1
House Maker	18(41.9)	25(58.1)	3.81(1.39–10.49)**	0.347(0.05–2.57)
Gov./Private Service	28(47.5)	31(52.5)	3.05(1.17–7.93)*	1.70(0.28–10.24)
Migrant Laborer	14(38.9)	22(61.1)	4.32(1.51–12.36)**	0.33(0.05–2.37)
Driver	6(33.3)	12(67.7)	5.50(1.54–19.60)**	0.55(0.06–4.91)
Farmer	1(12.5)	7(87.5)	19.25(2.04-181.93)***	0.96(0.05–17.49)
Marital Status				
Unmarried	32(68.1)	15(31.9)	1	1
married	57(38.8)	90(61.2)	3.37(1.68–6.77)***	1.57(0.42–5.94)
Religion				
Hindu	72(42.4)	98(57.6)	3.30(1.30–8.39)*	5.35(1.61–17.79)**
Muslim	17(70.8)	7(29.2)	1	1
Socio-economic Class				
Upper Class	28(71.8)	11(28.2)	1	1
Upper Middle Class	19(63.3)	11(36.7)	1.47(0.53–4.08)	1.27(0.37–4.38)
Middle Class	16(55.2)	13(44.8)	2.06(0.75–5.68)	1.24(0.36–4.26)
Lower Middle Class	18(34.0)	35(66.0)	4.95(2.01–12.17)***	3.83(1.17–12.58)*
Lower Class	8(18.6)	35(81.4)	11.14(3.95–31.42)***	5.89(1.58–22.09)**
Awareness about STIs				
Poor	18(24.3)	56(75.7)	4.51(2.37–8.58)***	2.16(0.81–5.79)
Good	71(59.2)	49(40.8)	1	1
Knowledge about STIs				
Poor	28(28.9)	69(71.1)	4.18(2.29–7.63)***	0.58(0.17–1.96)
Good	61(62.9)	36(37.1)	1	1

*** p < 0.05, ** p < 0.01, *** p < 0.001, OR = odd ratio, CI = confidence interval, 1: reference group**

Table 5
Odd ratio and adjusted odd ratio for informal treatment-seeking behaviours of respondents with respect to independent variables

Variables	Type of Treatment Care		Crude OR (95%CI)	Adjusted OR (95%CI)
	Care sought from formal health facilities	Care sought from informal health facilities		
Age Group (in Years)	**Number (%)**	**Number (%)**		
15–24	28(75.7)	9(24.3)	1	1
25–44	82(61.7)	51(38.3)	1.87(1.23–5.38)**	1.55(0.85–3.53)
45–60	15(62.5)	9(37.5)	3.19(1.35–10.83)**	2.12(0.58–3.25)
Educational Status				
Illiterate	7(30.4)	16(69.6)	16.0(5.17–49.53)***	4.45(1.74–26.96)**
Primary and Middle	11(40.7)	16(59.3)	10.18(3.60-28.75)***	3.32(1.59–18.80)**
High School & Intermediate	44(61.1)	28(38.9)	4.46(1.91–10.36)***	2.58(0.70–9.43)
Graduate and above	63(87.5)	9(12.5)	1	1
Occupation				
Student	25(83.3)	5(16.7)	1	1
House Maker	29(67.4)	14(32.6)	2.41(0.76–7.64)	1.13(0.26–409)
Gov./Private Services	42(71.2)	17(28.8)	2.02(0.67–6.16)	2.33(0.60–9.05)
Migrant Labourers	17(47.2)	19(52.8)	5.59(1.75–17.86)**	2.39(0.53–10.73)
Drivers	9(50.0)	9(50.0)	5.0(1.32–18.95)*	2.21(0.36–13.19)
Farmer	3(37.5)	5(62.5)	8.33(1.49–46.70)*	3.06(0.38–25.01)
Socio-economic Status				
Upper Class	31(79.5)	8(20.5)	1	1
Upper Middle Class	26(86.7)	4(13.3)	0.59(0.61–2.20)	0.32(0.07–1.48)
Middle Class	19(65.5)	10(34.5)	2.04(0.69–6.07)	0.88(0.23–3.30)
Lower Middle Class	32(60.4)	21(39.6)	2.54(0.98–6.59)*	0.82(0.24–2.85)
Lower Class	17(39.5)	26(60.5)	5.93(2.20-15.93)***	2.31(1.6–4.18)*
Awareness about STIs				
Poor	26(35.1)	48(64.9)	8.70(4.45–17.02)***	7.89(2.95–21.13)***
Good	99(82.5)	21(17.5)	1	1
Knowledge about STIs				
Poor	48(49.5)	49(50.5)	3.93(2.09–7.40)***	2.46(1.15–6.41)**
Good	77(79.4)	20(20.6)	1	1

*** p < 0.05, ** p < 0.01, *** p < 0.001, OR = odd ratio, CI = confidence interval, 1: reference group**

4 Discussion

STIs are a major public health problem and a leading cause of morbidity among men and women in developing countries like India. Through this study, authors tried to highlight the barriers to treatment-seeking behaviour among STI patients. The majority of the males and females were from rural areas, belonged to 18–34 age group, were married, with primary to intermediate level of education, and belonged to the lower income group. These findings were similar to a study conducted in Zambia [25].

The study revealed that the proportion of early health care seeking for STIs was 45.9% and more than half of the study participants seek medical care after the seventh day since the beginning of symptoms. This finding was in line with that of a study conducted in Kerala [26]. The finding of this study was also in line with studies conducted in Gambella of Ethiopia (43.2%) [14], Benishangul Gumuz, of Western Ethiopia (40.1%) [27] and Luwero of Uganda (41.9%) [28]. This implies that the majority of the patients practiced delayed health care seeking which leads to

increased duration of infectiousness which is one of the factors that increase the STI dissemination. Meanwhile, the proportion of early health care seeking in this study was higher than other studies conducted in Vietnam (20%), Ethiopia (33.3%), and Ghana (36%) [19, 29, 30]. The difference might possibly be explained by the differences in the periods of time between studies, the difference in the sample size, different study settings, the nature of study population, sampling approach used, data collection methodology and cultural homogeneity. On the other hand, finding of early health care seeking in this study current study was lower than those of studies conducted in USA (70%), Laos (58%), South Africa (47%) and Ghana (75.4%) [24, 31–33]. It is reasonable to speculate that these differences are due to different sample sizes, study environment, and populations studied. The other probable causes are the heterogeneity of the socio-economic status, and the differences in culture, variations in awareness, and differences in access to health care. [34]. Respondent in early age group (15–24) year were found higher in proportion (67.6%) who seeks early health care.

The odds ratio of early health-care seeking STIs in this study showed that patients with high school and intermediate education were 47 percent less likely to seek health-care early than patients with graduate education and above. This difference due to the fact that education has a valuable input in enhancing confidence and capability to make decisions about their own health.

This study also revealed that patients who had good knowledge about STIs were more likely to seek health care early than those who had poor knowledge. This finding is in line with those of studies conducted in Addis Ababa, Ethiopia, in South Africa and in Ghana [27, 32, 35]. The individuals with a good knowledge about sexually transmitted infections can be supposedly in a better position to make informed choices about their health in time and enable them to seek appropriate medical attention promptly hence minimizing the overall burden of disease by reducing the length and possible infectiousness. The knowledge gap on sexually transmitted infections, bridged by means of complete educational programmes and professional counselling, is one of the strategic interventions aimed at reducing delays in health-care seeking and preventing the development of complications related to sexual infections [36]. The most common reason for the delay in health care seeking in this study were fear of stigmatization and disclosure (76.3%), much waiting time in the facility (69.1%) and feeling of shame (64.4%). In this study, 64.4% of the respondents used formal healthcare sources. This finding was in line with that of a study conducted in Ibadan of Nigeria [22]. Meanwhile, the proportion of care sought from formal health facilities in this study was higher than the studies conducted in Nigeria [37, 38]. Respondent in early age group (15–24) were found higher in proportion who sought care from formal health facilities.

Among the cohort of illiterate respondents, there was a discernible propensity to seek medical care within informal health settings; conversely, those who attained graduate education or higher were markedly inclined toward formal healthcare institutions. Socio-economic status plays a central role as it determines the tendency of the patients to consult medical care. Respondents who lived in higher socio-economic strata exhibited a significantly higher tendency to visit formal health institutions than their counterparts that lived in lower socio-economic strata.

5 Strengths and limitation of the study

The study targets a specific and high-risk population patient with STIs in a tertiary care setting allowing for in-depth analysis of health-seeking patterns within this vulnerable group. Since the study was conducted in Eastern Uttar Pradesh, where sociocultural, educational, and economic factors may strongly influence treatment-seeking behaviour, this makes the findings contextually rich and locally relevant. There were limited existing research on STI treatment-seeking behaviour in this geographical area, so the current study fills an important evidence gap and provides baseline data for future interventions and policy planning. Data collected directly from patients through questionnaires ensures first-hand, reliable information rather than secondary or registry data.

The study likely examines multiple determinants sociodemographic, behavioural, and healthcare-related factors — giving a multifactorial understanding of what influences treatment-seeking. It is noted that this study includes only the patients who experienced STIs symptoms and sought care to this health facility. However, as the patients who did not seek care might have different characters generalizability should be done cautiously. Due to the cross-sectional character of the study, we are unable to prove a cause-and-effect link between STI related treatment-seeking behavior and independent variables. Since both sexual activities and condom usage were self-reported while participants were symptomatic, this may have led to recall bias and socially desirable answers due to embarrassment. Furthermore, the structured questions did not allow an in-depth narration of the participants' experience.

6 Conclusion and recommendation

The present study was an attempt to provide an insight and overview about barriers to treatment-seeking behaviour among STI patients.

The findings of the study show that more than half of the study participants seek care after seven days of onset of symptoms. Respondents' characteristics such as lower educational status, lower socio-economic status were significantly associated with the delayed health care seeking behavior of respondents who experienced STIs.

There were several barriers to accessing STI services and they were related to both structural and individual factors including stigmatization and disclosure, inconvenient location, much waiting time in the facility, feeling of shame, and not knowing where to go.

Respondents' characteristics such as lower educational status, lower socio-economic status, and poor awareness and poor knowledge of STIs were significantly associated with the care sought from informal health facilities.

Enhancing people's understanding of STI transmission, causes, complications, prevention, and treatment should be a top priority for current health education programs. STI campaigns must be planned by healthcare facilities in order to curb risky sexual practices, such as having several partners. Health education programs ought to cover the seriousness of STIs, their effects, and potential consequences of a higher risk of transmission to partners. Incorporating fundamental information about STIs into sexuality education and the curriculum, particularly in secondary schools, can increase students' understanding of STIs, dispel myths that favour those who have multiple sexual partners, and enhance prevention of STIs.

Declarations

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Competing interests

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Author Contribution

PKP and VSP analyzed, produced data tables and figures, and interpreted the data. PKP wrote the paper with important contributions from RKS, PK, and VSP. All authors had full access to the data, participated in data interpretation, and provided critical feedback on the manuscript. PKP and VSP had the final authority of the manuscript submission and all authors accepted responsibility for submission for publication. All authors read and approved the final manuscript.

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Data Availability

The original data for this study are available from the corresponding author upon reasonable request.

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Figures

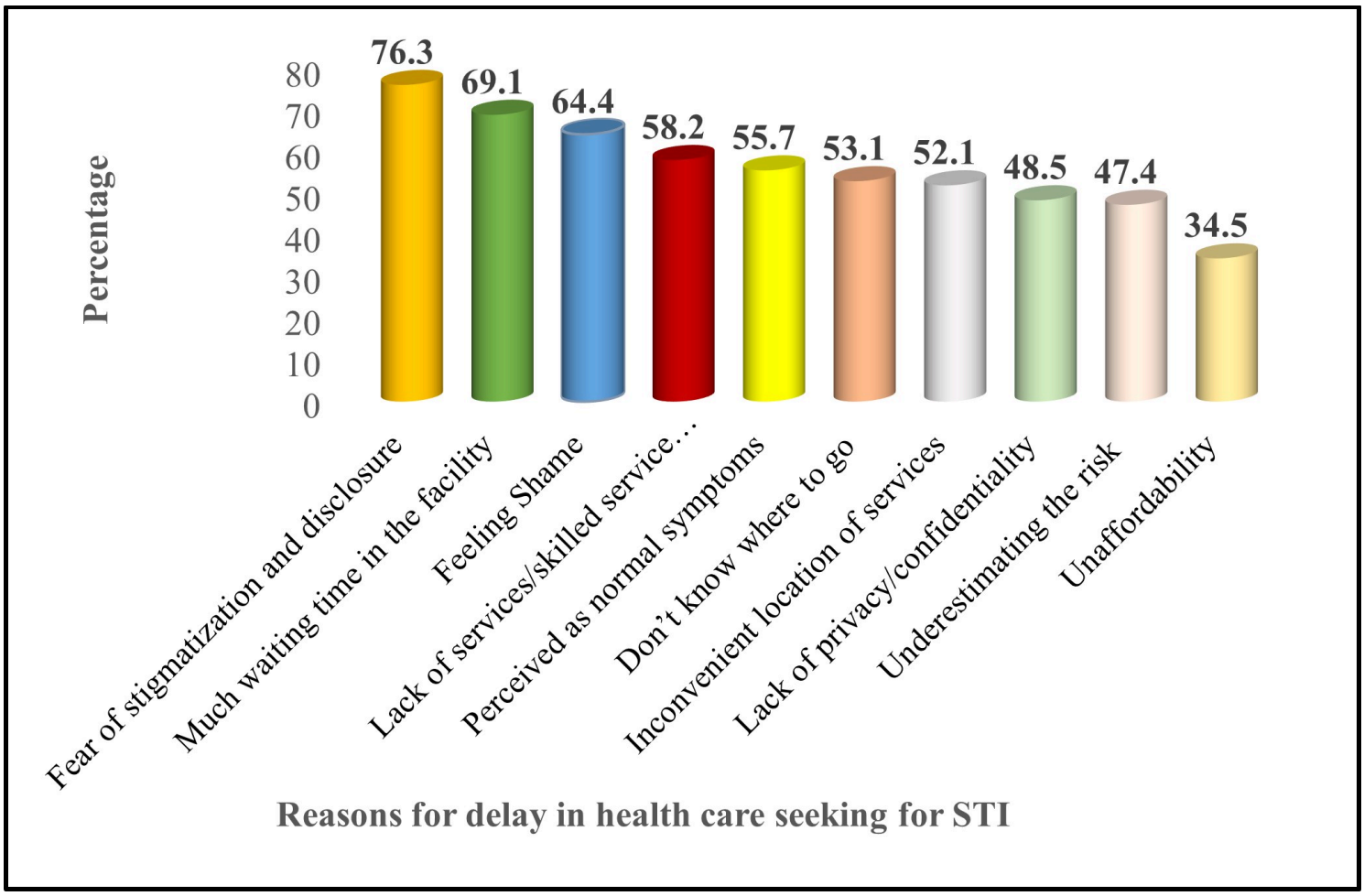


Figure 1

Reason for delay in health care seeking for STI in public health facilities at tertiary care hospital in Eastern Uttar Pradesh