

# Barriers to Early Treatment Seeking among Patients with Sexually Transmitted Infections in a Rural Community Setting at Kapraron Health Centre IV

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## ABSTRACT

Our study aimed to establish barriers to early treatment seeking among patients with sexually transmitted infections at Kapraron Health Centre IV. This was a facility-based cross-sectional survey employing quantitative methods. The study enrolled a total of 122 randomly selected participants who had consented to participate in the study. Data was collected using a pretested interviewer-administered questionnaire and analysed using STATA software version 14. Descriptive statistics were used to present data as graphs and tables of frequencies while for inferential statistics odds ratios and P-value set at 0.05 corresponding to a 95% confidence interval were used. The study revealed that 56.86% of the participants sought their STI treatment late. Participants' age, sex, symptom severity and cost of services at Kapraron Health Centre IV presented as significant barriers to early STI treatment seeking. Participants aged 36-45 (AOR=0.16, p=0.04, CI=0.03-0.88) and  $\geq 46$  years (AOR=0.17, p=0.05, CI=0.03-0.98) had lower odds of seeking treatment early which was similar for female participants (COR=0.38, p=0.02, CI=0.17—0.86). Conversely, participants with severe STI symptoms (COR=2.8, p=0.02, CI=1.19-6.58) and those who reported STI services at Kapraron Health Centre IV as affordable (AOR=3.73, p=0.011, CI=1.35-10.25) were 3.73 times more likely to seek early treatment. A higher proportion sought STI treatment late. Age, gender, symptom severity and service costs presented significant barriers to seeking early treatment. Mass STI screening programs should target individuals aged 26 and above, females and impoverished communities.

**Keywords:** STI treatment, Patients, Age, Gender, Symptom severity.

## INTRODUCTION

Sexually transmitted infections (STIs) are infections that are passed from one person to another through sexual contact. They can be symptomatic or asymptomatic [1, 2, 3]. STIs have a profound impact on sexual and reproductive health worldwide [4]. It was estimated that there were 376 million new infections of 1 of 4 STIs: chlamydia (127 million), gonorrhoea (87 million), syphilis (6.3 million) and trichomoniasis (156 million) [5, 6]. A high prevalence of curable STIs is reported in adults aged between 15-49 years, and the delay in seeking treatment has adverse consequences for both the individuals and the population [7]. It is estimated that there are 500 million incident cases of STIs per year in adults aged between 15-49 years in the world. More 1 million people in the world become infected with STIs every day [7]. In America, symptom awareness, behavioural factors and other barriers associated with timely sexually transmitted infection (STI) health care provision in men is not well studied [8]. Data suggest that over a quarter

(27.7%) of men with Urethritis symptoms delay seeking health care for more than 7 days [9]. Despite effective and accessible treatments, many sexually transmitted infections (STIs) in high income countries go untreated yet research into STI care has tended to focus on biomedical aspects of infections using patient samples and prioritized attendance of health care services. This approach overlooks the broader social context of STIs and health care-seeking behaviours, which are important to better understand the issue of untreated infections [10]. In South Kerala, out of 93 patients, delay of 8 or more days in seeking appropriate treatment was observed in 54 (58.1%) patients. Both males and females delayed in seeking treatment if their disease was not associated with severe symptoms such as pain and ulcer [11]. Sub Saharan Africa is one of the regions most affected by the four main curable sexually transmitted infections which are gonorrhoea, chlamydia, syphilis and trichomoniasis [12, 13, 14]. Sexually transmitted infection diagnosis is

increasing and efforts to reduce transmission have failed [15 -18]. In African context, the overall yearly incidence rate of curable STIs is estimated at 254 per 1000 people in the reproductive years, while only 77-91 per 1000 in developed countries. In Durban, 23% of 134 participants delayed coming to the clinic after noticing the signs and symptoms of an STI [7]. South Africa continues to suffer a high STI burden. There is need to re invigorate primary STI and HIV/AIDS prevention and especially for women to screen for asymptomatic infections [19]. According to [20], early treatment seeking behavior is critical, especially in sexually transmitted infections care. Men in comparison to women do not utilize treatment services and fail to seek early health interventions. Across western cultures, it has become a growing concern that men are reluctant to seek health care and use health care services. According to [21], in Gambella Ethiopia, delayed health care seeking is one of the major impediments to successfully prevent and control sexually transmitted infections (STIs) including HIV. Lower than half (43.2%) of study participants seek health care early within 7 days. The mean time of health seeking from the onset of symptom to the first visit to the health facility was 10 days. The proportion of delayed health care seeking among patients treated for STIs was 56.8%. Despite being in a different country and social environment, Ugandans living in the UK still reportedly have one of the highest incidences of STIs in the UK. In Uganda, STIs and HIV prevalence has been reported to be on the increase. People's behavioral patterns in seeking treatment for STIs is key in effectively designing control programs [22]. Syphilis is a cause of preventable morbidity and mortality in infants in sub-Saharan Africa (SSA) where 2.5-17% of pregnant women are infected with syphilis. Syphilis screening can be successfully integrated into antenatal clinics, and potentially avert significant morbidity and mortality to unborn infants but despite this, a minority of male partners report for testing and treatment increasing likelihood of reinfection [23]. Despite excellent uptake of syphilis screening, a minority of partners come in for testing

and treatment at Kapraron Health Centre IV. Increasing cases of untreated as well as recurrent sexually transmitted infections is on the rise, with women more at risk [1]. Despite Uganda's strides in the fight against HIV/AIDS, health experts are worried other sexually transmitted infections are on the increase and the challenge is that some come when it's too late [24]. This study therefore sought to establish the barriers to early treatment seeking among patients with sexually transmitted infections in a rural community setting at Kapraron Health Centre IV.

### Statement of Problem

Despite Uganda's strides in the fight against sexually transmitted diseases, health experts are worried other sexually transmitted infections are on the increase and the challenge is that some come when it's too late [24]. Despite excellent uptake of syphilis screening, a minority of partners come in for testing and treatment at the health facility in Kapraron Health Centre IV. Increasing cases of untreated as well as recurrent sexually transmitted infections is on the rise [1]. Kapraron Health Centre IV is a government health facility in Kween District Eastern Uganda which serves a community. As per facility HMIS records at the facility, STI cases rose from 384 to 588 respectively for the year between march 2021 to march 2022. This significant rise is usually associated with delayed treatment seeking among majority of patients and some patients have low level of awareness about the disease [25]. This delay in treatment seeking among clients with sexually transmitted infections can lead to complications such as pelvic inflammatory disease, infertility, tubal or ectopic pregnancy, cervical cancer and perinatal or congenital infections in infants born to infected mothers, organ damage, increased risk for HIV transmission and death. These can be combated by early health care interventions if treatment is sought early. Therefore, it's on this basis that this study sought to establish the barriers to early treatment seeking among patients with STIs in a rural community setting at Kapraron Health Centre IV.

## METHODOLOGY

### Study Design

A descriptive cross-sectional study design was used employing quantitative methods of data collection and analysis. The study design was preferred because data was to be collected at one point in time. This suited the researchers' limited time frame. Quantitative method was used in order to provide numerical values to be presented in form of frequency tables, graphs and cross-tabulation for easy interpretation.

### Area of Study

The study was conducted at Kapraron Health Centre IV located in Kween District Eastern part of Uganda. The facility's catchment population is largely a rural community estimated to be around 205,000 people. The latitude of the facility is 1.42181 and longitude 34.61716 with GPS coordinates 01° 25'18.51" and 34° 37' 01.77" E. The health facility provides both in-patient and outpatient clinical services inclusive of screening and management of

sexually transmitted infections like HIV, syphilis, gonorrhoea, chlamydia and trichomoniasis.

**Study population**

The study mainly focused on patients with STIs who are 18 years and above both males and female who seek STI treatment at Kapraron Health Centre IV who provided consent to participate in the study.

**Inclusion criteria**

Eligible participants at Kapraron Health Centre IV were patients diagnosed with STIs (men and women), 18 years and above who consented to participate in the study.

**Exclusion criteria**

Patients with STIs below 18 years of age (male and female) and those patients with STIs above 18 years of age (male and female) who did not consent to participate in the study.

**Sample size determination**

The sample size was calculated using Cochran’s formula.

$$n_0 = \frac{Z^2pq}{\epsilon^2}$$

Where:

- ε. is the desired level of precision i.e. the margin of error.
- p. is the proportion of patients with STIs who delayed STI seeking treatment at Kapraron Health Centre IV.
- q. is 1-p (proportion of patients with STIs who came early for STI treatment at Kapraron Health Centre IV).
- Z. is the Z table reading at 95% confidence.

Since the proportion of patients with STIs at the health facility is not known, a prevalence of 50% will be considered.

The sample size will therefore be calculated as below:

$$n_0 = (1.96*1.96) (0.5*0.5) / (0.05*0.05) = 384.16.$$

By rounding up, a random sample of 384 patients in our target population was considered enough to give us the confidence levels we needed.

In a small population at Kapraron Health Centre IV, we modified the sample size calculated in the above formula by using this equation.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Here, n<sub>0</sub> is Cochran’s sample size recommendation which is now 384, N is the population size estimated at 392 patients with STIs.

n is the new, adjusted sample size.

$$\text{Therefore, } n = 384 / (1 + (384 - 1) / 392) = 194.23$$

A round up figure of 194 respondents were considered for the study.

**Sampling procedure**

Selection of respondents involved use of a systematic random sampling procedure. The participants that were identified at the respective care Centers i.e. OPD and in the in-patient department were picked randomly at intervals of 2 before the next participant with the first participant randomly selected.

The sampling interval (I) was calculated as follows;

$$I = \frac{N}{n}$$
$$I = \frac{392}{194}$$
$$I = 2.02 \approx 2$$

Where N is the estimated total population size (392 patients per month) and n is the desired sample size (194). The same principle was used until the required sample size (194) was obtained. The same principle was used to select the first participant and the procedure was repeated until the required sample size was obtained.

**Data collection Procedure**

The data collection was done by the researcher using quantitative technique where by 194 participants for structured questionnaires were interviewed. Each consented participant filled an interviewer-administered pre-tested structured questionnaire estimated to take 15–20 minutes. The questionnaire included closed ended questions to which participants gave their responses. Data were collected over a period of one month.

**Data collection instrument**

Data were collected using questionnaires to evaluate barriers to early treatment seeking among patients with STIs. The questionnaire was used because it ensures a high response rate and it requires less time to administer [26].

**Variables and their measurements.**

The dependent variable of this study was early treatment seeking and the independent variables was the personal, community and facility Health care factors.

**Table 1: Description of Variables**

Variable name	Description	Coding	Data type
Early STI treatment seeking	Time of seeking care after onset of symptoms	1- Within a week 2- After a week	Ordinal
Age	Age of the client	1- 18 – 25 2- 26-35 3- > 35 4- ≥ 46	Ordinal
Sex	Sex of the client	1- Male 2- female	Nominal
Education	Education level of the client	1- No formal schooling 2- Primary 3- Secondary 4- Tertiary	Nominal
Knowledge of STI treatment	Knowledge of client on STI treatment	1- Knowledgeable 2- Not knowledgeable	Nominal
STI Symptom status	STI-symptom status of the client	1- No symptoms 2- Mild symptoms 3- Severe symptoms	Nominal
Self-medication	Self-medication status of the client	1- Yes 2- No	Nominal
Stigma and shame	Shame and stigma status of the patient	1- Yes 2- No	Nominal
Distance	Distance of client from Kapraron Health Centre IV.	1- Within 5km range 2- Beyond 5km range	Nominal
Cost of healthcare	Patients description of cost	1- Unaffordable 2- Affordable	Nominal
Quality of healthcare	Perceived quality of care by client.	1- Good quality 2- Fair 3- Poor	Ordinal
Behavior of health workers	Description of health workers' behavior by client.	1- Friendly 2- Unfriendly	Nominal

### Reliability

The study employed an interviewer-administration approach of data collection to ensure that unintended people do not fill the questionnaire or be interviewed thus raising the reliability. The researcher pre-tested the questionnaire in a different facility with the same setting as that of Kapraron. As a result, more adjustments were made to ensure higher representativeness. Rephrasing of some questions was done to clarify the questions and more appropriate alternative response choices were added to the closed-ended questions to provide meaningful data. Also, pre-visit to the study area to meet the

authorities, discuss the research issues and get familiar with the area was done.

### Validity

To achieve content validity, adjustments and additions to the research instruments, consultations and discussions with the supervisor were done to establish content validity. Questions were formulated according to literature review and simple language was used for clarity and ease of understanding. Logical flow of questions and using check questions were ensured. Field editing of filled questionnaires to check for completeness, inaccuracy and missing data were done. The questionnaires

were then numbered and coded for easy handling [27].

#### Data processing and analysis

Quantitative data were pre-coded in the questionnaire and it was edited to check for double entries and missing information. Data were analysed using STATA version 14. Univariate analysis was used to determine the personal, community and health care barriers to seeking early treatment for STIs. Bivariate analysis with a chi-square test was used to determine the association between the barriers and early treatment seeking for STIs. Barriers that appeared to be significant at bivariate analysis were considered for multivariate logistic regression analysis to establish the strength of association between the barriers and early treatment seeking and establish which barriers are independently associated with early treatment seeking for STIs. Odds ratios and P-value set at 0.05 corresponding to 95% confidence interval were used to determine the strength and significance of

#### Personal barriers to early STI treatment seeking among clients at Kapraron Health Centre IV

The findings of this study show that majority of the participants 69(56.56%) were aged 18-25 years. This was followed by about a fifth 28(22.95%) in the age group of 26-35, while those aged 36 years and above represented the least with a proportion of 25(20.50%). Similarly, male participants dominated their female counterparts representing more than half of the study participants 70(57.38%). With regards to education, majority had attained at least secondary level and above, 72(59.01%), followed by primary level 36(29.51%) and the least being those with no formal education at all 14(11.48%). The study also reveals that nearly two thirds 79(64.75%) of the participants did not know they had an STI before it was revealed to them. Correspondingly, about 8 in 10 of the participants came to seek care at Kapraron Health Centre IV only because they were feeling unwell. In addition, whereas more than 80% of the participants reported some STI symptoms, close to a fifth 21(17.21%) never experienced an STI symptom prior to seeking care at the facility. Furthermore, our results reveal that the great majority 63(61.76%) of those that sought care had severe symptoms. Notably, only 28(22.95%) of the participants that sought care had knowledge regarding STI treatment while over three quarters 94(77.05%) did not have knowledge regarding STI treatment. Similarly, 29(23.77%) of the study participants believed that medical therapy only

association between the barriers and early treatment seeking. Data were displayed using tables, frequencies, and graphs.

#### Ethical considerations

This proposal was submitted to the research and ethics committee of Kampala International University for ethical clearance and approval. The approval letter from the University was used to introduce the researcher to the district and facility administration of Kapraron Health Centre IV to seek permission to conduct the study. Furthermore, informed written consent was obtained from all the study participants. Participation in the study was out of free will, participants had a right to withdraw from the study at any time and there were no monetary benefits. In addition, identifiable information such as participant's names were not collected and maximum confidentiality of information gathered was ensured for all the participants throughout the study [28].

## RESULTS

compliments treatment from herbalists or spiritualists and some STIs heal on their own. Additional findings of our study also show that 33(27.05%) had used some treatment before coming to the facility, more than half 18(54.55%) of whom had used traditional medicine from traditional healers. Details of the results are shown in Table 2.

#### Community and health facility barriers to early STI treatment seeking among clients at Kapraron Health Centre IV

Concerning community barriers, close to two thirds 79(64.75%) of the study participants revealed that they would not freely share STI diagnosis with friends and relatives. Majority 57(72.15%) noted that people will think they are promiscuous if they shared their STI diagnosis and 22(27.85%) were not sure how people would take the results if they shared them. The study also noted that a bigger proportion of 101(82.79%) of the study participants lived within a 5km range and less than 20% lived beyond 5km from Kapraron Health Centre IV health facility. Vis-à-vis the health facility barriers, affordable costs of services at Kapraron Health Centre IV was reported by majority 67(54.92%) of the participants. On the contrary, only fewer than 15% of the participants reported Kapraron Health Centre IV services not to be of good quality with less than 7% reporting health workers' behavior as unfriendly. Details of the results are reflected in Table 3.

**Table 2: Shows personal barriers to early STI treatment seeking among clients at Kapraron Health Centre IV**

	Variable	Frequency (N)	Percentage (%)
Age	18-25	69	56.56
	26-35	28	22.95
	36-45	14	11.48
	≥46	11	9.02
Sex	Male	70	57.38
	Female	52	42.62
Education	None	14	11.48
	Primary	36	29.51
	Secondary	48	39.34
	Tertiary	24	19.67
Prior awareness of having STI before diagnosis at Kapraron Health Centre IV	Yes	43	35.25
	No	79	64.75
Reason to seek care	STI screening	24	19.67
	Feeling unwell	98	80.33
Symptom status	1-2	83	68.03
	>2	18	14.75
	None	21	17.21
Symptom severity	Mild	39	38.24
	Severe	63	61.76
Prior knowledge on STI treatment prior to coming to seeking care	Yes	28	22.95
	No	94	77.05

**Source Primary Data (2023)****Table 3: Shows personal barriers to early STI treatment seeking among clients at Kapraron Health Centre IV**

	Variable	Frequency (N)	Percentage (%)
How are STIs treated	Health worker gives you treatment according to his or her findings	93	76.23
	Medical treatment compliments treatment from herbalists or spiritualists and some STIs heal on their own	29	23.77
Did you use any treatment for this STI before coming to Kapraron Health Centre IV	Yes	33	27.05
	No	89	72.95
If yes what type of treatment	Traditional medicine	18	54.55
	Modern medicine	15	45.45
If Yes where did you receive the treatment	Traditional healers	16	48.48
	Pharmacy/Drug shop	12	36.36
	Other health facility	5	15.15

**Source Primary Data (2023)**

**Table 4: Shows community and health facility barriers to early STI treatment seeking among clients at Kaproron Health Centre IV**

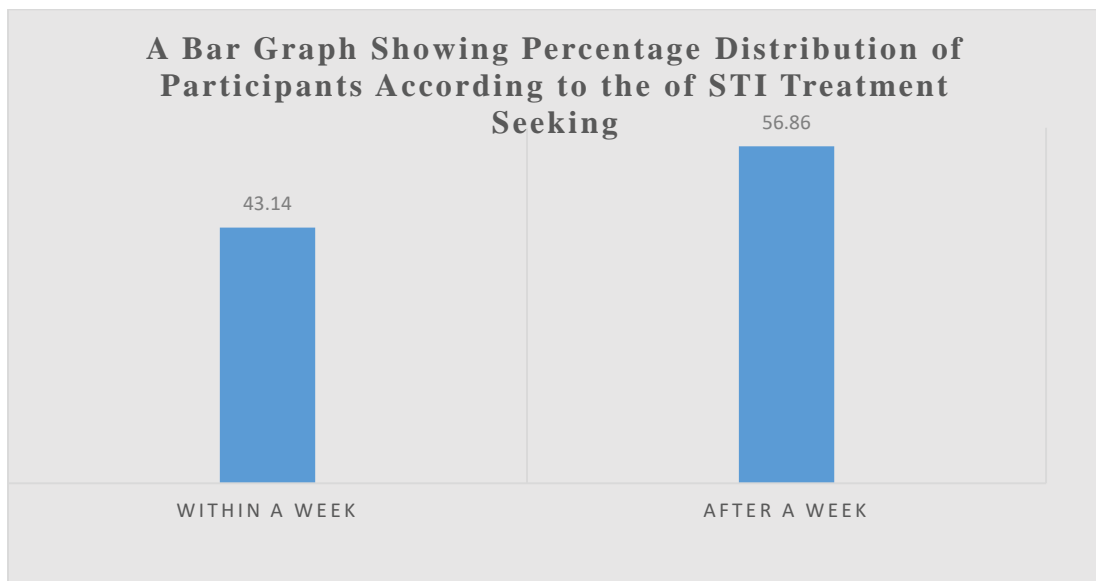
Variable		Frequency (N)	Percentage (%)
Would you freely share STI diagnosis	Yes	43	35.25
	No	79	64.75
If no give reasons why	They will think that am promiscuous	57	72.15
	I don't know how they would take it	22	27.85
Distance to Kaproron Health facility	Within 5km range	21	17.21
	Beyond 5km range	101	82.79
Health facility barriers			
Cost of services at Kaproron Health Centre IV	Affordable	67	54.92
	Un affordable	55	45.08
Quality of STI care at Kaproron Health Centre IV	Good	104	85.25
	Fair	11	9.02
	Poor	7	5.74
Behavior of health workers at Kaproron Health Centre IV	Friendly	114	93.44
	Unfriendly	8	6.56

Source Primary Data (2023)

**Time to seeking STI treatment among clients at Kaproron Health Centre IV**

sought treatment after a period of more than one week.

As shown in figure 1 below, the results reveal that a greater proportion (56.86%) of the study participants



Source Primary Data (2023)

**Figure 1: Distribution of participants according to the timing of STI treatment seeking.**

## Bivariate analysis of the personal, community and health facility barriers to early STI treatment seeking among clients at Kapraron Health Centre IV

### Personal barriers

Our findings show that participants aged 18-25 (75.00%) dominated their counterparts in the proportion of those that sought treatment within one week. These were followed by participants aged 26-35 (15.91%) and the least being those aged 36 years and above (9.10%). This further shows that as participants age increased, their ability to seek treatment early reduced. The relationship between participants' age and early seeking of treatment was statistically significant ( $p=0.007<0.05$ ) meaning the age of a participant presented a significant barrier to seeking treatment. Likewise, male participants represented a greater proportion (68.18%) of the participants that sought treatment within a week as compared to their female counterparts who were only represented by a proportion of (31.82%). The relationship between participants' sex and ability to seek treatment in time was found to be statistically significant ( $p=0.019<0.05$ ). This means the participants' sex presented a significant barrier to early treatment seeking. Correspondingly, participants that reported severe STI symptoms shared the biggest proportion (75.00%) of those that sought treatment within a week compared to only 25% among those that had mild symptoms. The

relationship between symptom status and early treatment seeking was found to be significant. This therefore indicated that the status of symptoms presented a significant barrier to seeking STI treatment. As opposed to age, sex and severity of the STI symptoms, no significant relationship was observed regarding education, knowledge, treatment type, treatment source as barriers to seeking STI treatment. Details of the findings are reflected in Table 4.

### Community and health facility barriers

Our findings also reveal that a higher proportion of participants who noted that the cost of services at Kapraron Health Centre IV were affordable (65.91%) sought their STI treatment within a week of symptom onset. This relationship was found to be statistically significant ( $p=0.003<0.003$ ). On the other hand, quality of care and behavior of health workers at Kapraron Health Centre IV did not appear significant barriers to seeking early STI treatment at Kapraron Health Centre IV. Similarly, stigma and the distance to Kapraron Health Centre IV were also found not to be significant barriers to seeking early STI treatment among clients at STI. The details of these findings are reflected in Table 5.

**Table 5: Shows results of the bivariate analysis of the personal barriers to early STI treatment seeking among clients at Kapraron Health Centre IV**

Variable		STI treatment seeking		Chi <sup>2</sup> (X <sup>2</sup> )	P-value
		After a week N (%)	Within a week N (%)		
Age	18-25	24(41.38)	33(75.00)	12.26	0.007*
	26-35	16(27.59)	7(15.91)		
	36-45	11(18.97)	2(4.55)		
	≥46	7(12.07)	2(4.55)		
Sex	Male	26(44.83)	30(68.18)	5.51	0.019*
	Female	32(55.17)	14(31.82)		
Education	None	6(10.34)	7(15.91)	0.84	0.839
	Primary	17(29.31)	13(29.55)		
	Secondary	22(37.93)	16(36.36)		
	Tertiary	13(22.41)	8(18.18)		
Did you know you had an STI	Yes	22(37.93)	13(29.55)	0.78	0.377
	No	36(62.07)	31(70.45)		
What prompted you to seek health care	Routine blood work up	15(25.86)	5(11.36)	3.34	0.068
	Feeling unwell	43(74.14)	39(88.64)		
No. of signs and symptoms above	1-2	10(17.24)	10(22.73)	0.52	0.771
	≥2	39(67.34)	27(61.36)		
	None	9(15.52)	7(15.91)		
Severity of symptoms	Mild	28(48.28)	11(25.00)	5.74	0.017*
	Severe	30(51.72)	33(75.00)		

Source Primary Data (2023) \*P-value<0.05



**Table 6: Shows results of the bivariate analysis of the personal barriers to early STI treatment seeking among clients at Kapraron Health Centre IV**

Variable		STI treatment seeking		Chi <sup>2</sup> (X <sup>2</sup> )	P-value
		After a week N (%)	Within a week N (%)		
Did you know about STI treatment before coming for this treatment?	Yes	12(20.69)	12(27.27)	0.60	0.438
	No	46(79.31)	32(72.73)		
If Yes above, how are STIs treated and where do we get treatment	Health worker gives you treatment according to his or her findings	45(77.59)	34(77.27)	0.01	0.970
	Medical treatment compliments treatment from herbalists or spiritualists and some STIs heal on their own	13(22.41)	10(22.73)		
Did you use any treatment for this STI before coming to Kapraron Health Centre IV?	Yes	16(27.59)	12(27.27)	0.01	0.972
	No	42(72.41)	32(72.73)		
If yes what type of treatment	Traditional medicine	9(56.25)	7(58.33)	0.01	0.912
	Modern medicine	7(43.75)	5(41.67)		
If Yes where did you receive the treatment	Traditional healers	8(50.00)	7(58.33)	0.61	0.734
	Pharmacy/Drug shop	5(31.25)	4(33.33)		
	Other health facility	3(18.75)	1(8.33)		

Source Primary Data (2023) \*P-value<0.05

**Table 7: Shows results of the bivariate analysis of the community and health facility barriers to early STI treatment seeking among clients at Kapraron Health Centre IV**

Variable	STI treatment seeking			Chi <sup>2</sup> (X <sup>2</sup> )	P-value
	After a week N (%)	Within a week N (%)			
Community barriers					
Would you freely share STI diagnosis	Yes	20(34.48)	16(36.36)	0.04	0.844
	No	38(65.32)	28(63.64)		
If no give reasons why	They will think that am promiscuous	26(68.42)	22(78.57)	0.84	0.360
	I don't know how they would take it	12(31.38)	6(21.43)		
How far do you stay from Kapraron Health Centre IV	Within 5km range	13(22.41)	5(11.36)	2.10	0.147
	Beyond 5km range	45(77.59)	39(88.64)		
Health facility barriers					
How would you rate the cost of services at Kapraron Health Centre IV	Affordable	21(36.21)	29(65.91)	8.83	0.003*
	Un affordable	37(63.79)	15(34.09)		
How would you rate the quality of care for STI at Kapraron Health Centre IV	Good	50(86.21)	37(84.09)	0.13	0.935
	Fair	5(8.62)	4(9.09)		
	Poor	3(5.17)	3(6.82)		
How do you describe the behavior of health workers at Kapraron Health Centre IV	Friendly	55(94.83)	42(95.45)	0.02	0.885
	Unfriendly	3(5.17)	2(4.55)		

Source Primary Data (2023) \*P-value<0.05

Multivariate binary logistic regression of the barriers to early STI treatment seeking among clients at Kapraron Health Centre IV. The barriers, age, sex, symptom status and cost of services that were found significant at the level of bivariate analysis were considered for further analysis in the linear regression analysis so as to establish the strength of association and reveal the barriers that independently influenced early treatment seeking for STIs at Kapraron Health Centre IV. The results of the analysis revealed that compared to individuals aged 18-25, participants aged 26-35 (AOR-0.43, p-0.13, CI-0.14-1.30), 36-45 (AOR-0.16, p-0.04, CI-

0.03-0.88), ≥46 (AOR-0.17, p-0.05, CI-0.03-0.98) were less likely to seek treatment within a week time. Similarly, compared to female clients, male participants were found to have higher odds of seeking STI treatment in time (AOR-1.41, p-0.55, CI-0.45-4.41). In addition, our results also showed that participants with severe STI symptoms were 2.38 times more likely to seek treatment in time compared to clients who reported mild symptoms (AOR-2.38, p-0.12, CI-0.83-6.68). Furthermore, clients that noted that services were affordable at Kapraron Health Centre IV were 3.73 times more likely to seek treatment within a week time

compared to those that reported that services were unaffordable at Kapraron Health Centre IV (AOR-3.73, p=0.011, CI-1.35-710.25). The results of this study revealed a significant relationship between participant age and cost of services at Kapraron Health Centre IV. The results show that compared to participants in the age of 18-25, clients aged 36-45 and 46 years or more were respectively 84% and

83% less likely to seek STI treatment in a week time. Correspondingly, participants that noted that the cost of STI services at Kapraron Health Centre IV were affordable were found to be 3.73 times more likely to seek treatment within a week compared to those that reported that services were unaffordable (AOR-3.73, p=0.011, CI-1.35-10.25). The details of the findings are reflected in Table 8.

**Table 8: Shows results of the multivariate binary logistic regression of the barriers to early STI treatment seeking among clients at Kapraron Health Centre IV**

Overall logistic regression model, Prob>Chi<sup>2</sup> =0.001

Variable	Time to seeking STI treatment		AOR	95% CI	P-value	
	After a week N (%)	Within a week N (%)				
<b>Age</b>	18-25	24(41.38)	33(75.00)	1	1	
	26-35	16(27.59)	7(15.91)	0.43	(0.14,1.30)	0.13
	36-45	11(18.97)	2(4.55)	0.16	(0.03,0.88)	<b>0.04*</b>
	≥46	7(12.07)	2(4.55)	0.17	(0.03,0.98)	<b>0.05*</b>
<b>Sex</b>	Male	26(44.83)	30(68.18)	1.41	(0.45,4.41)	0.55
	Female	32(55.17)	14(31.82)	1		1
<b>Symptom severity</b>	Mild	28(48.28)	11(25.00)	1		1
	Severe	30(51.72)	33(75.00)	2.38	(0.83,6.86)	0.12
<b>Service cost</b>	Un Affordable	37(63.79)	15(34.09)	1		1
	Affordable	21(36.21)	29(65.91)	3.73	(1.35,10.25)	<b>0.011*</b>

Source Primary Data (2023), \*P-value<0.05

## DISCUSSION

Our study aimed to establish the personal, community and facility healthcare barriers to early treatment seeking among patients with sexually transmitted infections at Kapraron Health Centre IV. The study revealed a higher proportion (56.86%) of the participants seeking STI treatment after a period of more than one-week time. This therefore implies that more than half of the participants in the study area did not seek treatment in time. Seeking treatment for STI late increases the risk of transmitting the infection, allows for disease progression and puts an individual at risk of developing severe and sometimes irreversible complications like infertility or nerve damage. Our study findings are consistent with findings from a study by [21] who also noted that 56.80% of the participants delayed seeking treatment. Similarly, comparable findings were also observed in another study by [11] who revealed that 58.1% of the study participants sought treatment after 8 or more days of STI symptoms. On the contrary, our study findings do not agree with a study in USA (27.7%) and Durban (23%) that revealed a much lower proportion of the participants seeking treatment late [7, 9]. The differences observed in these study findings may be related to the different socio-economic and cultural backgrounds of the study

participants and methods used to determine late and early treatment seeking.

### Personal barriers to early treatment seeking among patients with sexually transmitted infections

Another important observation in this study was that participants aged 18-25 (75.00%) sought treatment in time more compared to their counterparts in the age groups 26-35 (15.91%), and those aged 36 years and above (9.10%). This reveals that as participants' age increases, their ability to seek treatment early reduces. This relationship between participants' age and early seeking of treatment was statistically significant meaning the age of a participant presented a significant barrier to seeking treatment. In addition, compared to individuals aged 18-25, clients aged 36-45(AOR-0.16, p=0.04, CI-0.03-0.88) and 46 years or more (AOR-0.17, p=0.05, CI-0.03-0.98) were respectively 84% and 83% less likely to seek STI treatment within a week. This could be due to the fact individuals in the younger age group (18-25) are more likely to engage in high-risk sexual behaviours and this increases their risk of acquiring STIs. Perception of STIs effects on an individual and having multiple sexual partners was found to be significant factors for seeking treatment early [21].

The results of this study are not consistent with findings from studies by [29] who found out that participants in the younger age group did not seek STI treatment early compared to older age groups. Likewise, male participants represented a greater proportion (68.18%) of the participants that sought treatment within a week as compared to their female counterparts who were only represented by a proportion of (31.82%). The findings revealed that compared to female clients, male participants were found to have higher odds of seeking STI treatment in time (AOR-1.41, p-0.55, CI-0.45-4.41). This could be due to the fact that males tend to experience earlier and more severe STI symptoms than females thus seeking timely treatment. Moreover, participants that reported severe STI symptoms were 2.38 times more likely to seek treatment in time compared to clients who reported mild symptoms (AOR-2.38, p-0.12, CI-0.83-6.68). Other studies have also related symptom severity and gender to seeking treatment among individuals with STIs [7, 30]. According to [31], lack of symptoms was a barrier to STI screening for both males and females and most individuals will delay seeking treatment if their disease was not associated with severe symptoms such as pain and ulcer [11]. In addition, the reason STIs recur in some people especially partners it's because women symptoms are often detected after a long period of time when they become severe [1]. This is because of the unique nature of their reproductive systems as opposed to the men's who experience symptoms a few days after contracting the infection. Our results concur with findings from a study by [32].

As opposed to age, sex and severity of the STI symptoms, no significant relationship was observed regarding education, knowledge, treatment type, treatment source as barriers to seeking STI treatment. On the contrary, [32] found a significant relationship between treatment seeking and higher educational status.

### **Community and health care facility barriers to early treatment seeking among patients with sexually transmitted infections**

Stigma and the distance to Kapraron Health Centre IV were also found not to be significant barriers to seeking early STI treatment among clients with STIs at Kapraron Health Centre IV. This is however not consistent with findings from studies by [31, 32, 33, 34, 7, 30] that suggest that first, stigma hinders all aspects of STD testing, prevention and treatment since STD treatment-seeking behaviour is still regarded as embarrassing and disgraceful to patients. [35], suggested that barriers reported when seeking STI health care included distance to care. This study also revealed that a higher proportion of participants who noted that the cost of services at Kapraron Health Centre IV were affordable (65.91%) sought their STI treatment within a week of symptom onset. We observed that clients who noted that services were affordable at Kapraron Health Centre IV were found to be 3.73 times more likely to seek treatment within a week compared to those that reported that services were unaffordable (AOR-3.73, p-0.011, CI-1.35-10.25). Our findings are in accordance with previous studies which reported costs involved in accessing various health care services as important barriers in utilization of health care services in previous studies. According to [35], barriers reported when seeking STI health care included financial problems (72%) and unfriendly behavior of the provider (24.4%). Furthermore, the costs of STI testing services were some of the barriers to STI screening as noted [33]. Likewise, individuals who reported a higher monthly income were 1.5 times more likely to seek care for STIs, this can be explained by the fact that a higher income status may directly relate to affordability of health care services [30]. Similar findings were also noted by [34]. On the other hand, quality of care and behavior of health workers at Kapraron Health Centre IV did not appear significant barriers to seeking early STI treatment at Kapraron Health Centre IV. As opposed to the current study, across themes, sexual activity and reproduction were central topics in reproductive care settings. These topics facilitated disclosure to providers, but also enhanced vulnerability to a behaviour of discrimination [37].

### **CONCLUSION**

This study revealed a higher proportion of participants at Kapraron Health Centre IV delayed seeking their STI treatment. The barriers that significantly influenced treatment seeking among the study participants included age, sex, symptom severity and cost of services at Kapraron Health Centre IV.

### **Recommendations**

Interventions like mass community screening of STIs should be implemented targeting majorly older individuals age 26 and above, females and the impoverished who cannot afford medical costs that come along with STI treatment. Further research

that includes public health facilities is recommended

for generalizability purposes of the study findings.

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