

# Factors Influencing Prevalence of Sexually Transmitted Infections in the Maasai Community of Ilkeekonyokie, Kajiado, Kenya

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**Abstract:** Globally, Sexually Transmitted Infections have become a public health concern as it is threatening people's sexual and reproductive health. Both current and previous researches agree that STIs are a threat to societal wellbeing; hence need serious intervention. The purpose of this study was to identify factors that influence the prevalence of STIs among the Maasai of Ilkeekonyokie ward in Kajiado County within Kenya. The multistage sampling technique and convenient sampling procedures were applied to get a sample size of 100 respondents in Kajiado West. The sample size was justifiable as multinomial logistic regressions requires a minimum of 10 cases per independent variable (Schwab, 2002). The researcher used structured questionnaire to collect data from the respondents. Thereafter, the data were analyzed using SPSS (Vs 26). The study used the Multinomial Logistic Regression model to examine the prevalence of STIs in Ilkeekonyokie ward. Results from the study indicate that Maasai attitude dimensions explained in cultural attitudes toward sexuality, town job seeking, engagement in cattle business, and urbanization are related to the prevalence of Sexually Transmitted Infections in Ilkeekonyokie ward.

**Key words:** *Maasai, attitude, urbanization, sexual transmitted infections, multinomial logistic regression, Ilkeekonyokie, Kenya, and health belief model*

(WHO), one million STIs are acquired everyday worldwide (2019). Urbanization has been cited as one of the underlying causes of STI prevalence in the world. In the year 2018, the United Nations (UN) reported that 55% of the world population lived in urban areas. The leading urbanized regions are North America (82%), Europe (81%), Southern America (78%), and Oceania (68%) (UN DESA Report, 2018). Even on the continent of Africa, things are changing and more people are migrating to cities. As cities expand, they extend to rural areas both good and bad influences.

Like any other countries of the world, Kenya is undergoing urban growth and change in lifestyle. For example, Kajiado County, the home of Maasai in Kenya, is one of the affected areas. Building constructions and land developers are increasing on the land that originally was a rural area belonging to the Maasai (Kavilu, 2016). New ways of life and western cultures are introduced to the Maasai community. This change in lifestyle is believed to have contributed greatly to the increase in the prevalence of STIs as it is leading the Maasai to engage in job-seeking and business activities.

Even though urban life tends to provide its dwellers with improved education, health facilities, and health conditions, the change in lifestyle and increased human interaction (Patterson, Goldstein, Gómez, Castillo & Towers, 2015) have been identified as major factors in the spread of sexually transmitted infections (Barnes, 2017). In the past, Maasai men would assume village life, live with their wives, and share wives within the age-set groups freely without fear of contracting STIs since they live in an almost closed community (May & McCabe, 2004). Nowadays, Maasai are becoming less nomadic. Men go to towns and in mining areas, where STIs are prevalent, to seek jobs. They get hired as security guards; some go to sell their cattle or entertain tourists by selling sex (Barnes, 2017).

## Introduction

Communities around the world are threatened by Sexually Transmitted Infections (STIs). The situation may vary in magnitude, but there is no part of the world exempted from this threat. STIs are a pandemic. This is one of the major public health concerns, which, according to the estimation of the World Health Organization

With limited knowledge of urban life, they engage in sexual relationships carelessly with urban or tourist women. The practice is accelerated by the Maasai cultural attitude towards sexual behavior like wives sharing, having multiple lovers, polygamous marriages, and community ceremonies (May & McCabe, 2004; Siegler, Mbwambo & DiClemente, 2013).

STIs have now become a threat to people's wellbeing. So far, there is lack of research to address the association that exists between STIs prevalence among the Ilkeekonyokie Maasai community and town job seeking, business, urbanization, and cultural attitude towards sexuality. If the situation is not seriously addressed, it can result in life-threatening health complications and may affect the well-being of the community in general.

The purpose of this quantitative cross-sectional study was to identify factors that influence the prevalence of STIs among the Maasai of Ilkeekonyokie ward within Kenya. The findings of this study may help in the effort to prevent, control, and manage STIs in Ilkeekonyokie Ward and other communities with similar challenges. This study is in support of the global strategy to increase information in order to give a focused public health intervention (Torrone et. al., 2018). Moreover, the Maasai community attracts tourism (Barnes, 2017) in the time when interactions with people from other societies is growing; therefore, any health concern they have can become a global problem. When the Maasai are well informed in regard to relationships between sexual behavior and their health, many communities in the world will benefit from safe interactions when carrying out socioeconomic activities. Finally, strengthening our understanding about all issues surrounding STIs will contribute to the improvement of sexual and reproductive health (Hahn & Truman, 2015).

### Literature Review

Literature pertaining to STIs strongly suggests that this is a global challenge and a public health threat (WHO, 2019). The WHO news release expressed;

STIs have a profound impact on the health of adults and children worldwide;

if untreated, they can lead to serious and chronic health effects that include neurological and cardiovascular disease, infertility, ectopic pregnancy, stillbirths, and increased risk of HIV (2009).

Studies in broader literature have examined STIs and concluded that these infections differ in severity as some are curable, for example chlamydia, syphilis, gonorrhea, and trichomoniasis (Rowley et al., 2019), while others have no cure like HIV and Hepatitis B (Gray, 2019; WHO, 2019). A study done by Hogeveen (2011) concluded that even the high rate of infertility among Maasai women is due to a history of STIs.

Research has shown that interventions done since 2012 to 2016 to combat STIs prevalence in the world have not resulted in the decline of the rate of prevalence of STIs (WHO, 2019). New laid implementation strategies in 2016 intend to end STIs globally by 2030, but there is still a long way to go, and this demands intentional efforts by everyone. The report from WHO (2019) indicated that before the period of intervention, the rate of STI prevalence worldwide was 9% in 2010, and the figure remained the same in 2017.

Some authors have suggested that people who are marginalized like the poor, drug addicts, sex workers, prison in-mates, and the like tend to be at risk of contracting STIs compared to other population (Caviness, Anderson, & Stein, 2012; Patterson et al., 2015). Other researchers have also established that a relationship exists between urbanization and sexually transmitted infection (Maclean, 2016; Patterson et al., 2015).

A study done by Greif, Doodoo, and Jayaramani (2010) in five cities of Sub-Saharan Africa indicated that there is a relationship between poverty, urbanization, and sexual behavior. The results of this study revealed that slum dwellers tend to engage in early sexual activity and are open to having multiple sexual partners compared to non-slum dwellers. This agrees with the findings of Maclean (2016) and Patterson et al. (2015) which suggest that urbanization contributes to the prevalence of STIs. They assert that it is due to the change of cultural values and increased human interaction with different ethnic communities. On the other hand, when specifically referring to

the Maasai, other researchers insist that customs, social practices, rural labor migration, and back to the village are the cause to the prevalence of STIs (Matongo, 2011; May & McCabe, 2004; Pakdamana & Azadgoli, 2014).

Kavilu (2016) examined the current status of business activities and attitudes created among community members as a coping mechanism to land scarcity. The same author believes that Maasai pastoralists are affected by land developers who are purchasing Maasai communal land leaving them to cope with a lifestyle that they are not used to—a fact that he refers to as a human right issue. A similar finding is that of May and McCabe (2004) who observed a close association between business activities of selling livestock and job seeking with STIs prevalence.

A study done by Anthony (2013) indicated that job seeking have a strong correlation with STIs in emerging towns, as young people work as security guards, traders, and entertainers in cities and coastal areas where STIs are rampant. At the same time, they engage with multiple sexual partners both in cities and back home. Matongo (2011) confirms this by stating that job seeking contributes to prevalence of STIs when rural life becomes difficult, such that a significant number of young generations start looking for alternative ways of making a living.

Several studies such as that of Caviness et al. (2012), Towers et al. (2015), and Pakdamana and Azadgoli (2014) assessed the relationship

between STIs and cultural values. These studies show that increased prevalence of STIs results from values which abuse the sexual relationship in society. Their impression is that some cultures give room for extra marital practices. Pakdamana and Azadgoli (2014) confirm that sharing of wives is common among the Maasai because their cultural sexual autonomy is far great among married people of their culture. For this reason, extramarital sexual relationships are seen as an important aspect of any Maasai marriage (Sharp & Twaiti, 2019).

Pakdamana and Azadgoli (2014) support this by saying, “Polygamy and having multiple sex partners even when married are common and culturally accepted practices within the Maasai community” (p.30). Further, Sharp and Twaiti (2019) state:

Members of the same age set are permitted to engage in sexual activity with one another’s wives, and wives are permitted to choose sexual partners outside their marriage provided they are not in a lower age set than their husbands. (p.7)

The conceptual framework expresses the two major categories of variables that were examined in this study. The figure shows the four independent variables and one dependent variable in this study. The independent variables were urbanization, town cattle business, town job seeking, and Maasai cultural attitudes on sexuality

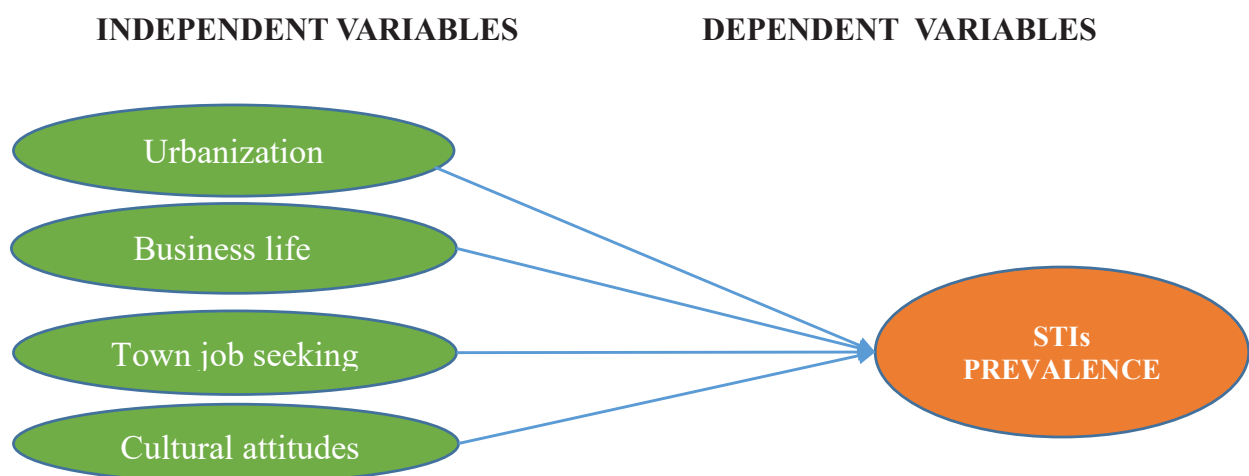


Figure1. Conceptual Framework.

whose presence contributes to STIs prevalence (the dependent variable). Researchers agree that the Maasai have become semi-nomads as the population increases, and land privatization is experienced (Moiko et al., 2020) opting for other means of survival like seeking jobs in town and selling cattle. When they go back home, they carry the infection contracted from urban areas to the villages where they infect their multiple partners (Barnes, 2017; May & McCabe, 2004).

## Research Gap

A closer look reveals a gap in the literature in the sense that the influence of urbanization, cultural attitudes, town job seeking, and cattle business in the Ilkeekonyokie community is not yet explored. The question on identifying the factors influencing the prevalence of STIs among the Maasai of Ilkeekonyokie has never been addressed. Previous research can only be considered a first step toward a more profound understanding of the relationship that exists between these four independent variables and the prevalence of STIs among the Maasai of Ilkeekonyokie ward. It is the purpose of this study to fill this literature gap.

## Research Questions

The study sought to answer five research questions:

1. What are the demographic characteristics of respondents typically found in Ilkeekonyokie Maasai community?
2. How does urbanization expose Ilkeekonyokie Maasai to contracting STIs?
3. What are the Maasai cultural attitudes towards sexual behaviors that lead to the prevalence of STIs?
4. What is the relationship between town job seeking and exposure of the Ilkeekonyokie Maasai community to STIs?
5. What is the contribution of business in the life of Ilkeekonyokie Maasai community to the prevalence of STIs?

## Methodology

In this section, the researcher focuses on the approach of the study. This is realized by providing a detailed description of the research

design, research setting, sampling techniques used, data collection methods, data analysis, and ethical considerations.

## Research Design

This study employed a quantitative cross-sectional research design. A multinomial logistic regression data analysis was used to establish the relationship between urbanization, town job seeking, Maasai cultural attitudes towards sexuality (independent variables), and the prevalence of STIs (dependent variable). The prevalence of STIs had four dimensions:

1. I have STIs symptoms. (STIs1)
2. I have had STIs in the past one year. (STIs2)
3. I know a friend/relative with STI. (STIs3) and
4. There is no STIs prevalence. (STIs4)

Independent variables expressed in the questionnaire were urbanization, business, town job seeking, and Maasai cultural attitudes on sexuality. Urbanization had three dimensions:

1. Urbanization has changed Maasai values and contributed to STIs prevalence. (Urb1)
2. Increased human interaction has contributed to STIs prevalence (Urb2)
3. Maasai interaction with other ethnic communities has exposed them to STIs. (Urb3)

The business variable had two dimensions:

1. Land scarcity (Bus.1)
2. Cattle selling in town (Bus.2).

Town job seeking had one category (Job1), while the Maasai cultural attitudes had five dimensions:

1. Thinking that Maasai get STIs from town (Cul.1)
2. Selling sex (Cul.2)
3. Buying sex (Cul.3)
4. Having multiple lovers is very important for Maasai (Cul.4) and
5. Without sex, a Maasai man gets sick. (Cul.5)



To ensure content validity, the questions were structured around key dimensions of relationships that exist between Maasai cultural attitudes on sexuality, urbanization, business, town job seeking, and prevalence of STIs. In order to achieve validity, the study measuring instrument covered the entire area of research questions and had adequate sample size to represent the population of Ilkeekonyokie ward.

### **Research Setting**

The study was conducted in Ilkeekonyokie ward within Kajiado County in Kenya which covers an area of 807square kilometers with a population size of 33,562.

### **Sampling**

Multi-stage sampling technique was employed for the study. From the five sub-counties of Kajiado County, Kajiado West was the researcher's choice. The population size was narrowed further to Ilkeekonyokie ward which constituted the sample frame where the researcher decided to carry out the survey in two locations. These were South Ilkeekonyokie whose population is 4,163 and Central Ilkeekonyokie with 3,285 based on the number registered voters. The basis of the population was the number of voters being an indication of the number of adults within the locations. Under multi-stage sampling technique, the researcher applied cluster sampling procedure to select 25 Maasai bomas (homesteads) which consist of a minimum number of 8 small huts each. In the South Ilkeekonyokie location, there were 180 bomas, and in the Central Ilkeekonyokie location, there were 205 bomas. Ten bomas were selected from South Ilkeekonyokie, and 15 bomas were selected from Central Ilkeekonyokie.

In getting the number of respondents, the researcher applied convenient sampling to get a sample size of 100 respondents whereby from each boma two respondents of ages 20 years and above were selected depending on their availability on the day of data collection. The sample size was justifiable because it followed the multinomial logistic regression requirement of at least 10 cases per independent variable (Schwab, 2002).

### **Data Collection**

Proper data collection procedures were followed before, during, and after the data collection process. Before the start of the data collection, an introduction letter was obtained from the Dean of the School of Post Graduate Studies of Adventist University of Africa seeking approval from relevant authorities. The researcher secured permission from the Office of Kajiado West sub-county commissioner who introduced the researcher to the chiefs of Central and South Ilkeekonyokie. According to the sub-county commissioner, these leaders were involved because they have a great influence in the community as Maasai people respect leaders. The chiefs offered all the cooperation needed to carry out the needed survey. Four trained research assistants who spoke both Maa (Maasai language) and English languages assisted in collecting data for two days.

### **Data Analysis**

The final analysis was performed using SPSS (Vs 26). The analysis was made to identify the factors associated with the prevalence of STIs among the Maasai of Ilkeekonyokie Ward in Kajiado County. The regression model is typically used to explain the interactions among variables. It shows the relationship that exists between a dependent (DV) and a single or many independent variables (IV) (Mahajan, Garg, & Sharma, 2014). In terms of mathematics, the regression model for the variables selected in this study is multinomial logistic model whose purpose is to investigate the cause and effect relationship of chance outcomes.

Multinomial logistic regression models in their basic forms estimate the relationship that exists between a nominal dependent variable (Y), which in this study is the prevalence of STIs, and two or more independent variables ( $X_1, X_2, X_3, X_4$ ), which in this study were urbanization, business, job seeking, and cultural attitudes towards sexuality. This can be expressed as:  $Y = f(X) \dots (1)$  Multinomial regression is a predictive regression. Working on the chances of outcome variable is the centre of any multinomial logistic regression analysis. This chance of outcome is called conditional mean. It is expressed as  $E(Y|Xs)$ . Y is the dependent variable where Xs refer to the independent variables. The interpretation of this

relationship that the expected value of Y when Xs are known (Lee, Ahn, Moon, Kodell, & Chen, 2013). The conditional mean is defined as  $E(Y|X) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$ ; where  $\epsilon$  is the random error term.

The logistic regression model is defined as  $\pi(X_1, X_2) = \frac{e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2}}{1 + e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2}}$ , where  $\pi(X_1, X_2)$  is logit transformation in logistic regression (Menard, 2011). This transformation also can be identified as  $g(X_1, X_2) = [1 - \pi(X_1, X_2)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \dots j$  (Mahajan et al., 2014). The common assumption is that  $\epsilon$  has a normal distribution with mean zero and constant variance, and that the dependent variable is not ordinal, composed of discrete categories that occur in a specific order.

### Ethical Consideration

Considering the sensitivity of the issues being asked in the questionnaire, respondents were

assured of data confidentiality. The respondents were identified by numbers, and they remained anonymous. They were not coerced in any way. The aim and methods of research were made clear to all respondents. In order to achieve this, the researcher provided each respondent a consent form, and they were requested to sign the form as acceptance to participate in the study.

### Results

The study took place in the Maasai Community of Ilkeekonyokie ward within Kajiado County in Kenya. Ilkeekonyokie ward belongs to Kajiado West sub-county. The researcher used 100 respondents, and each construct had more than 10 items. The demographics of respondents included gender, age, marital status, level of education, and occupation. Table 1 shows the analysis report of descriptive statistics such as frequencies and percentages.

Table 1  
*Participants' Demographics*

		Frequency	Percent	Valid Percent
Gender	Male	42	42.0	42.0
	Female	58	58.0	58.0
	Total	100	100.0	100.0
Age	20-30	36	36.0	36.0
	31-40	28	28.0	28.0
	41-50	26	26.0	26.0
	51+	10	10.0	10.0
	Total	100	100.0	100.0
	Level of education	Primary	24	24.0
Secondary		28	28.0	28.0
University		25	25.0	25.0
Never attended school		23	23.0	23.0
Total		100	100.0	100.0
Marital Status	Single	18	18.0	18.0
	Married	74	74.0	4.0
	Widows/ers	7	7.0	7.0
	Divorced	1	1	1
	Total	100	100	100

As indicated in Table 1, out of 100 respondents, 42 (42%) were males while 58 (58%) were females. As to the age, 64(64%) were between 20 and 40 years old, while 36 (36%) were above 40 years old, with only 10 (10%) being above 50 years old. Only 25% of the respondents indicated that they had university education, and (23%) never attended school. The majority (28%) had secondary education, and the rest (24%) had primary school education. Out of 100 respondents only 18 (nine males and nine females) were single. There were 7 widows, no widower, and only 1 divorcee. Out of the 42 male respondents, 32 (76%) indicated that they were married, and 42 (72%) of the 58 female respondents indicated that they were married. The respondents engaged in various occupational activities. Among the male respondents, the dominating occupation was livestock keeping (38%) followed by working as a security guard (16%). For women respondents, the majority identified themselves as housewives (25%), followed by teachers (15.5%), and lastly, livestock keeping (12.1%).

A five-point Likert scale was used to measure responses on the Attitude Scale where one stands for strongly disagree and five stands for strongly agree as seen in Table 2.

Table 2  
Mean Ranges from which Interpretation were Drawn

SN	Mean Range	Response
1	5	Strongly Agree
2	4	Agree
3	3	Neutral
4	2	Disagree
5	1	Strongly Disagree

The researcher applied multinomial logistic regression data analysis to establish the relationship that exists between the prevalence of STIs and Maasai cultural attitudes towards sexuality, urbanization, business, and job seeking.

Table 3

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	317.59			
Final	175.36	142.23	68	.000

Source: SPSS estimations

Table 3 indicates that the parameters of the model for which the model is calculated fits significantly. The final row presents information on whether all the coefficients of the model are zero (i.e., whether any of the coefficients are statistically significant). Another way to consider this result is whether the variables added any statistical significance to improve the model compared to the intercept alone (i.e., with no variables added). From the level of significance column that  $p = .000$ , which means that the full model statistically does significantly predict the dependent variable better than the intercept-only model alone.

Table 4  
Pseudo R-Square

Cox and Snell	.759
Nagelkerke	.792
McFadden	.448

Source: SPSS estimations

SPSS statistics calculated the Cox and Snell, Nagelkerke, and McFadden pseudo  $R^2$  measures of 75.9%, 79.2%, and 44.8% respectively, which indicates that the variability of chances of STIs prevalence is largely explained by the independent variables in the model. The results presented in the Likelihood Ratio Tests (Table 5) provides a summary of the contribution of each variable in the model as shown below:

Table 5  
*Likelihood Ratio Tests*

Effect	Model Fitting Criteria		Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	Df	Sig.	
Intercept	175.363 <sup>a</sup>	.000	0	.	
Age	195.715	20.353	4	.000	
Level of Education	192.711	17.348	4	.002	
Urbanization1	187.467	12.104	4	.017	
Urbanization2	178.922	3.560	4	.469	
Urbanization3	198.570	23.207	4	.000	
Business1	177.401	2.039	4	.729	
Business2	190.380	15.018	4	.005	
Jobs1	190.350	14.987	4	.005	
Culture1	183.086	7.723	4	.102	
Culture2	184.270	8.908	4	.063	
Culture3	194.975	19.613	4	.001	
Culture4	189.861	14.498	4	.006	
Culture5	183.689	8.326	4	.080	
Gender	196.721	21.359	4	.000	
Marital status	180.924	5.562	12	.937	

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

The overall effect of nominal variables is presented in Table 6. This table presents what is missing in parameter estimates shown below, the fact which makes likelihood ratio very useful for nominal variables.

Table 6 presents the parameter estimates of the effects of dimensions of urbanization, business, jobs, and culture on the prevalence of STIs (also known as the coefficients of the model). In this model, each variable has a coefficient for the factors leading to STIs prevalence variable. As there are four categories of the dependent variable, it can be observed that there are four sets of logistic regression coefficients (sometimes called four logits). The first set of coefficients are found in the “STIs 1” row (representing the comparison of the prevalence of STIs category to the reference category, No prevalence of STIs). The second set of coefficients are found in the

“Presence of STIs in the past year” row (this time representing the comparison of this category to the reference category, No prevalence of STIs).

The only coefficients that are statistically significant in the first logit are the coefficients of Urbanization3, Business2, Jobs1, Culture2, Culture3, and Culture4. The first is that the Maasai interaction with other ethnic communities exposes them to STIs (Urbanization3) ( $\exp\beta=0.03, p = .00<.05$ ). The second is that the Maasai are exposed to a new way of life and STIs because of selling their cattle in town (Business2) ( $\exp\beta=12.17, p = .00<.05$ ). The third is that the Maasai are exposed to new ways of life and STIs because of town jobs attractions (Jobs1) ( $\exp\beta=9.099, p = .02<.05$ ). The fourth is that the Maasai cultural attitude of paying for sex, hence leading to STIs prevalence (Culture2) ( $\exp\beta=0.18, p = .04<.05$ ). The fifth is that the Maasai are exposed



Table 6  
Parameter Estimates

	Culture1	-.019	.515	.001	1	.971	.982	.358	2.693
	Culture2	-1.549	.792	3.822	1	.051	.212	.045	1.004
	Culture3	3.145	1.330	5.589	1	.018	23.217	1.712	314.881
	Culture4	-.130	.524	.061	1	.805	.879	.314	2.455
	Culture5	-.471	.490	.925	1	.336	.624	.239	1.631
ST	Intercept	-6.621	5.982	1.225	1	.268			
Is3	Age	.976	.662	2.173	1	.140	2.654	.725	9.712
	Level of Education	-.741	.554	1.786	1	.181	.477	.161	1.413
	Urbanization1	.939	.636	2.183	1	.140	2.559	.736	8.898
	Urbanization2	1.017	.683	2.219	1	.136	2.766	.725	10.547
	Urbanization3	-1.796	.868	4.285	1	.038	.166	.030	.909
	Business1	.191	.510	.141	1	.708	1.211	.446	3.287
	Business2	1.111	.644	2.976	1	.085	3.036	.860	10.722
	Jobs1	.606	.748	.656	1	.418	1.833	.423	7.938
	Culture1	.445	.560	.632	1	.427	1.561	.521	4.676
	Culture2	-.729	.592	1.514	1	.218	.482	.151	1.540
	Culture3	2.636	1.187	4.931	1	.026	13.952	1.363	142.855
	Culture4	-.679	.571	1.418	1	.234	.507	.166	1.551
	Culture5	-.554	.532	1.085	1	.298	.575	.203	1.629
ST	Intercept	-	9661.609	.000	1	.999			
Is4	Age	2.019	.683	8.732	1	.003	7.534	1.974	28.752
	Level of Education	-1.282	.564	5.162	1	.023	.278	.092	.839
	Urbanization1	1.109	.652	2.889	1	.089	3.030	.844	10.882
	Urbanization2	.549	.637	.742	1	.389	1.731	.497	6.030
	Urbanization3	-1.853	.856	4.682	1	.030	.157	.029	.840
	Business1	.531	.575	.854	1	.355	1.701	.551	5.247
	Business2	1.773	.643	7.600	1	.006	5.888	1.669	20.767
	Jobs1	1.228	.784	2.451	1	.117	3.415	.734	15.889
	Culture1	.309	.533	.336	1	.562	1.362	.479	3.875
	Culture2	-1.454	.684	4.520	1	.033	.234	.061	.893
	Culture3	3.892	1.244	9.783	1	.002	48.996	4.276	561.355
	Culture4	-.921	.538	2.934	1	.087	.398	.139	1.142
	Culture5	-1.284	.540	5.643	1	.018	.277	.096	.799

	Culture1	-.019	.515	.001	1	.971	.982	.358	2.693
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	Urbanization2	1.017	.683	2.219	1	.136	2.766	.725	10.547
	Urbanization3	-1.796	.868	4.285	1	.038	.166	.030	.909
	Business1	.191	.510	.141	1	.708	1.211	.446	3.287
	Business2	1.111	.644	2.976	1	.085	3.036	.860	10.722
	Jobs1	.606	.748	.656	1	.418	1.833	.423	7.938
	Culture1	.445	.560	.632	1	.427	1.561	.521	4.676
	Culture2	-.729	.592	1.514	1	.218	.482	.151	1.540
	Culture3	2.636	1.187	4.931	1	.026	13.952	1.363	142.855
	Culture4	-.679	.571	1.418	1	.234	.507	.166	1.551
	Culture5	-.554	.532	1.085	1	.298	.575	.203	1.629
ST Is4	Intercept	-	9661.609	.000	1	.999			
	Age	2.019	.683	8.732	1	.003	7.534	1.974	28.752
	Level of Education	-1.282	.564	5.162	1	.023	.278	.092	.839
	Urbanization1	1.109	.652	2.889	1	.089	3.030	.844	10.882
	Urbanization2	.549	.637	.742	1	.389	1.731	.497	6.030
	Urbanization3	-1.853	.856	4.682	1	.030	.157	.029	.840
	Business1	.531	.575	.854	1	.355	1.701	.551	5.247
	Business2	1.773	.643	7.600	1	.006	5.888	1.669	20.767
	Jobs1	1.228	.784	2.451	1	.117	3.415	.734	15.889
	Culture1	.309	.533	.336	1	.562	1.362	.479	3.875
	Culture2	-1.454	.684	4.520	1	.033	.234	.061	.893
	Culture3	3.892	1.244	9.783	1	.002	48.996	4.276	561.355
	Culture4	-.921	.538	2.934	1	.087	.398	.139	1.142
	Culture5	-1.284	.540	5.643	1	.018	.277	.096	.799

to new ways of life and STIs because of attitudes towards having multiple lovers, leading to STIs prevalence (Culture4) ( $\exp\beta = 0.12$ ,  $p = .00 < .05$ ).

The relationship between STIs prevalence and the independent variables in the model was analyzed through the multinomial logistic regression analysis as shown in Table 6 and the interpretation. By calculating the ratio of the odds for STIs prevalence for respondents feeling the presence of the problem from urbanization, business, jobs, and cultural attitudes and those respondents who do not feel the presence of the problem, this ratio stays the same over all the ratings.

Eleven variables were tested against STIs prevalence and six of these variables did not support the regression model E that was presented in the equation (4):

1. Hypothesis H1: Urbanization factor that urbanization has changed Maasai cultural values has no statistically significant relationship with STIs prevalence;
2. Hypothesis H2: Urbanization factor that increased human interaction has no statistically significant relationship with STIs prevalence;
3. Hypothesis H4: Business factor that increased land scarcity has no statistically significant relationship with STIs prevalence;
4. Hypothesis H7: Maasai attitudes towards town people as source of STIs have no statistically significant relationship with STIs prevalence;
5. Hypothesis H8: Maasai attitudes towards receiving money for sex as source of STIs have no statistically significant relationship with STIs Prevalence; and
6. Hypothesis H11: Maasai attitudes towards having sex as relief condition from getting sick, hence leading to STIs prevalence, have no statistical significant relationship with STIs Prevalence.

The author's null hypothesis of six variables was retained as they had no significant effect on the prevalence of STIs with  $p\text{-value} > 0.05$ . On the other hand, analysis shows that five out of 11 variables had direct effect on the prevalence of STIs, hence they are statistically significant

( $p\text{-value} < 0.05$ ). These were:

1. Urbanization attitude factors that increased interaction with other ethnic communities have no statistically significant relationship with STIs prevalence;
2. Business attitude factors that Maasai cattle selling in town have no statistically significant relationship with STIs prevalence;
3. Attitudes of seeking town jobs attractions have no statistically significant relationship to STIs prevalence;
4. Maasai cultural attitudes towards paying money for sex have no statistically significant relationship with STIs prevalence; and
5. Maasai cultural attitudes towards having multiple lovers as important in life have no statistically significant relationship with STIs Prevalence.

The results support the regression model E that was presented in the equation (4). Based on the small observed significance level, the null hypothesis that the coefficient of STIs prevalence with the above five variables is not statistically significant was rejected. There appears to be a relationship between STIs prevalence and the presence of the five statistically significant dimensions of the independent variables. For any rating level, people who perceive STIs prevalence is influenced by those variables score higher than those who do not perceive that STIs prevalence is influenced by them.

In this case, the following regression equation applies:

$$E(Y|X) = \alpha_0 + \beta_3 X_{13} + \Pi_2 X_{22} + \phi X_3 + \psi_2 X_{42} + \psi_3 X_{43} + \epsilon_i$$

where  $E(Y|X)$  is an expected outcome of STIs prevalence on people;  $X_{13}$ ,  $X_{22}$ ,  $X_3$ ,  $X_{42}$ ,  $X_{43}$  are the respondents' perceived strong factors influencing STIs prevalence which are: increased interaction with other ethnic communities, business attitudes of selling cattle in towns, attitudes towards town jobs attractions, attitudes towards paying money for sex, and importance of having multiple lovers;  $\alpha_0$  is the constant coefficient;  $\beta_3$ ,  $\Pi_2$ ,  $\phi$ ,  $\psi_2$ ,  $\psi_3$ , and  $\psi_4$  are their respective coefficients, and  $\epsilon_i$  is the disturbance error term. A model

explaining increased interaction with other ethnic communities (urbanization), attitude towards town jobs attractions, and attitudes of placing importance on having multiple lovers in the community on STIs prevalence phenomenon was evolved with three dimensions found reliable out of 11.

## Discussion

The purpose of this study was to identify factors associated with the prevalence of STIs in Ilkeekonyokie ward of Kajiado County. Previous studies like those of Barnes (2017), May and McCabe (2014), and Sharp and Twaiti (2019) have not addressed the relationship that exists between the prevalence of STIs in Ilkeekonyokie ward and attitudes explained in the dimensions of urbanization, cattle business, town job seeking, and Maasai attitudes toward sexuality. However, some studies have dealt with behavioral attitudes of health risks in HIV, smoking, alcohol, and drug abuse but not STIs as it relates to the people in Ilkeekonyokie. From the findings of this study, it has been observed that Maasai becoming semi-nomads and adapting to the changing world has not changed their attitude toward sexual behavior, the fact that is contributing to STIs prevalence. As they interact with other ethnic communities, engage in cattle business, and as they get money, their spending is not fully on promoting personal development rather than satisfying sexual desires. Attitude towards job seeking is perceived to increase health risks as the youth are caught in expectations of changing their life through employment. Some are led to sexual actions to obtain jobs or obtain money from employed people. This agrees with the fact that urbanization has changed Maasai values (urb1) but did not exhibit any significance for the outcome of STIs prevalence in Ilkeekonyokie ward. This means that the Maasai cultural values and attitudes have deeper roots that cannot be easily altered.

Respondents who admitted to currently having symptoms of STIs also agreed with the following findings: that through interaction with other ethnic communities, Maasai have been exposed to new ways of life and STIs (Urbanization3), that cattle selling business in town contributes to STIs prevalence (Business2), and that attitudes towards town job seeking contributes to STIs

prevalence (Jobs1). They also agreed with the attitude of paying money for sex and having multiple lovers to be an appropriate thing for the Maasai even outside marriage.

The findings on Maasai attitudes towards sexual behavior is consistent with the studies done by May and McCabe (2004), Pakdamana and Azadgoli (2014), and Siegler et al. (2016). The aforementioned studies have successfully pointed out that behavioral attitudes of individuals in the society are primarily generated from the socioeconomic activities done on a daily basis and which affect their livelihood. Behavioral attitudes comprise the multiplicative sum of the individual's relevant activities and conducts that define the likelihood and evaluation or severity related behavioral beliefs (Allegretti, 2018). Furthermore, Pakdamana and Azadgoli (2014) reveal that such attitudes may also be independently measured following the major dimensions of activities and conducts which describe the structure of a society.

## Conclusion

This study on the factors influencing the prevalence of STIs in the Maasai community of Ilkeekonyokie, Kajiado, Kenya revealed that change in lifestyle and increased human interaction is a reality the Maasai community cannot escape. The study also revealed that this change in lifestyle has not managed to alter most of the Maasai values and practices which include their cultural attitudes towards sexuality. While it is not the intention of this study to propose that the Maasai should change their positive harmless cultural values and practices, it suggests that those cultural practices that are detrimental to Ilkeekonyokie Maasai's health and wellbeing could be unlearned and avoided to cope with their changing lifestyle. Since this is not an easy exercise altogether, the researcher recommends the Health Belief Model (HBM) as a suitable health intervention strategy to curb the situation in Ilkeekonyokie ward.

The HBM is an effective tool of predicting health outcomes which results from behavioral changes. This is a widely used model in health promotion and disease prevention programs. The model can address the factors that have led Maasai of Ilkeekonyokie to contract STIs and



help them see how they are at risk of negative health outcome (perceived susceptibility) to reinforce the idea of behavior change (Jones, Jensen, Scherr, Brown, Christy & Weaver, 2015). The community will be helped to realize the consequences of a negative outcome (perceived severity) as seriousness of the condition will be portrayed. The benefit of behavioral change and the barriers that stand in the way of behavior change will be discussed (Boskey, 2020). An example would be what a man should do with his attitude on sexuality if he must have a town job, do business in town, or interact with other ethnic communities.

The good thing with this model is that it will help individuals find triggers to behavior change (cues to action) and help them believe they can overcome the berries and make change (self-efficacy) (Boskey,2020). In that case, promoting self-efficacy, awareness on the threats of cultural values towards sexuality, avoiding unrealistic expectations from urbanization, and business can prove to be significant in the offset of the prevalence of STIs.

The findings of the study have a limited generalizability as the measured independent variables may not bring the same result if tested in other communities, especially non-Maasai communities. Further research could focus on the understanding of the relationship between infertility rate among the Maasai and STIs.

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