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Original Article

Demographic Factors Influencing the Prevalence of H.I.V/AIDS in Mbeya Region of Tanzania.

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ABSTRACT

Background & Aim: The study was conducted in the aim to figure out the demographic factors that fueling prevalence of H.I.V/AIDS in 2011/12-Mbeya region. The demographic data of the cross-sectional years 2011/12 was used. The study encompassed male and female individuals aged 15-49.
Methods & Materials: The binary logistic regression model was used employed and demographic factors that were considered to have an impact on the prevalence of the epidemic were included in our analysis.
Results: The result shows that demographic variables had significant effect on the prevalence of H.I.V/AIDS in the year 2011/12- Mbeya region for all respondents. However, except for male circumcision for male individuals, polygamous, travelers and pregnancy status for female individuals, the demographic parameters such as respondent age, respondent sex, paid sex (commercial sex) and unsafe sex had significant effect on the prevalence of H.I.V/AIDS in the year 2011/12 in Mbeya region and female were the most affected individuals compared to male individuals. H.I.V infection was highly prevalent in urban areas than rural areas. As compared to other previous studies, a shift of the epidemic from rural areas to urban areas, and from young age (15-24) to middle age group (30-39).
Conclusion: To prevent further prevalent of H.I.V/AIDS a substantial number of those infected present with AIDS related symptoms and may be in need of ART. As a comprehensive response, prevention efforts should be intensified to target and addresses identified transmission parameters and include individuals of all ages. In urban areas, commercial sex workers should be targeted to capture those at risk of H.I.V infection. Concurrent attempts to expand access to treatments and care for those infected in urban and rural areas are needed as this will increase opportunity for prevention. Safe sex should be insisted by providing people with protective measures and then insisting them to use it regularly.

Introduction

The government of Tanzania through Ministry of Health tries their level best in providing people who are living with Human Immunodeficiency Virus (H.I.V) with Antiretroviral (ARV) drugs to maximally suppress the Human Immunodeficiency Virus (H.I.V) and stop the progression of Human Immunodeficiency Virus (H.I.V) infections. Also the government through its Ministry of Health's personnel provides counseling to those people who are not yet infected by Human Immunodeficiency Virus (H.I.V), on how to avoid and protect themselves from Human Immunodeficiency Virus (H.I.V)infections. By doing so, the spread of

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Human Immunodeficiency Virus (H.I.V) has somehow been reduced in Tanzania. However Human Immunodeficiency Virus (H.I.V) infection to some extends is still a problem in Tanzania due to various reasons. The researcher analyzed some of the reasons which are grouped into demographic parameters and socio-economic factors.

Raping and violence in sexual relationship, women are particularly vulnerable to rape and violence in sexual relationships, and in many cases they have limited control over their sexual relationships. It is also that some women depend on sex as a source of income, and these women are vulnerable because they have limited power in negotiating safe sex practices. Alcohol consumption increases the likelihood of interaction with sex workers and other unsafe sex behaviors (Johnson and Bud lender, 2002).

H.I.V infection is also influenced by socio-economic factors such as income, education and employment status. The individual's risk of H.I.V infection is determined by both his/her socio-economic status, and the socio-economic profile of the community he/she is situated. The individual's socio-economic status determine their ability to attract sexual partners (particularly in case of men), as well as their access to Sexually Transmitted Diseases (STD) treatment and their ability to protect themselves from H.I.V infection. The socio-economic profile of the community, on the other hand, is closely related to its extent of urbanization, and to the level of migration it experiences. H.I.V prevalence levels vary substantially between occupational and industrial groups. Levels are particularly high among mine workers, and truck drivers' and other occupations involving long separations from regular partners.

For biological and socio-economical reasons, women are in general at a higher risk of H.I.V infection than men. Male and female prevalence patterns are also differ substantially with respect to age. Women tend to become infected in their teens and early twenties. Men attract more sexual partners as they enter employment and acquire socio-economic status, and hence get infected at older age on average (Bud lender and Johnson (1)).

The sub-Saharan African remains to be the region most adversely affected by H.I.V, accounting 67% of H.I.V infections worldwide, and for 72% world's Acquired Immunodeficiency Syndrome (AIDS) related deaths see UNAIDS and WHO (2). In sub-Saharan Africa, the main route of H.I.V transmission for adults is heterosexual contact (Sewankambo et al. (3))

Little is known about the determinants of the different dynamics, though many factors have been invoked. In their classic studies of H.I.V risk factors, comparing two cities with high seroprevalence and two cities with low seroprevalence. Buve et al. (4) found few such factors, the well documented effect of male circumcision was confirmed, as well as the controversial correlation with another sexually transmitted disease, genital herpes infection (HSV).

Another troublesome feature of H.I.V epidemics in Africa is its age pattern. In particular, young women tend to become infected very rapidly after their first sexual encounter, and in countries with high levels of H.I.V infection, female seroprevalence tends to peak around age 25-30, where as it peaks some 5 to 10 years later for males. The pattern remains partly unexplained, and even in the carefully conducted four-city study authors recognize that available data, especially about women having older sexual partners, do not permit to fully explain it (Glynn et al.(5)).

Therefore, the purpose of the present paper is to identify the demographic factors influencing the prevalence of H.I.V/AIDS in Mbeya region in 2011/12 (6).

Methodology

2.1 Study Areas

The study carried out in Mbeya region. Purposive sampling was used to select Mbeya region as the study site since because of its interactiveness (business activities carried out) which made this region to be so busy. This interactiveness are due to Tanzania- Malawi border (Kasumulu) and Tanzania-Zambia border (Tunduma) whereby most of the people from these three countries are there for business purposes and for that reason migrant employments can be found easily in this region. That's why researcher wanted to know H.I.V infection with respect to demographic parameters within Mbeya region.

2.2 Study design and Population

The main data source of this study was the 2011/12-Tanzania H.I.V/AIDS and Malaria Indicator Survey (THMIS-2011/12) , conducted by the National Bureau of Statistics-Tanzania. Targeted data were those persons diagnosed with H.I.V, therefore all individuals aged 15-49 (N= 657) and listed as having a permanent homes in the urban and rural areas were eligible for participation.

2.3 Data Collection Procedures

The researcher used secondary data which has been collected from NBS-Tanzania, on 2011/12-THMIS. THMIS designed to provide up to date information on the prevalence of H.I.V/AIDS among Tanzanian adults and the prevalence of Malaria and Anemia among children under age five (5).

Interviews were conducted through households, therefore all respondents ages 15- 49 were involved in the interview. That means at the set dates, research team went from household to household. Respondents received information regarding the study aims and procedures. During the interviews information on the demographic parameters, ages, sex, polygamy, used and ever used condoms, being away from home etc were collected.

2.4 Statistical Analysis

Statistical analysis is the process of systematically applying statistical and or logical techniques to describe and illustrate, condense and recap, and evaluate data.

Descriptive statistics of the sample were obtained through frequencies and cross-tabulations. The χ^2-test for difference in proportions was also applied for categorical variables and continuous variables were presented as means with their standard deviation. Strength of the association between H.I.V/AIDS infections and demographic risk parameters was estimated by calculating odds ratio or relative risk.

2.5 Statistical Model

To identify the underlying demographic parameters which have significant effect on the transmission of H.I.V/AIDS, a statistical model has been employed. Due to the binary nature of the outcome variable in this study, being H.I.V positive or negative a binary logistic regression model has been employed for the given data.

Results

Out of 700 respondents about 657 respondents were involved in modeling as other cases were deleted for having missing information. This is 93.9% of targeted sample size. Among 657 respondents included in the analysis 296 (45.1%) were males and 361 (54.9%) were females, while 304 (46.3%) 353 (53.7%) respondents were from urban and rural areas respectively. Therefore, the sample size used to run logistic regression analysis was satisfactory.

Table 1 depicts the distribution of demographic parameters by sex among individuals included in the study in Mbeya

region. Whereas age groups, polygamous, unsafe sex and travelers composition differ significantly by respondent's sex as shown in the table below.

***Table 1**. Distribution of demographic factors by sex among individuals included in the study in Mbeya Region*

Variable	Category	Total	Female (%)	Male (%)	p-value
Sex		657	361(54.9)	296 (45.1)	
Age(years)	Mean (SD)	29.02 (9.795)	28.68 (9.313)	29.45(10.3)	0.236
Age groups(years)					
	(15 – 29)	347	191 (47.1)	156 (52.7)	
	(30 – 39)	196	118 (32.7)	78 (26.4)	
	(40 – 49)	114	52 (20.2)	62 (20.9)	0.045
Male Circumcision					
	Circumcised	-	-	92 (31.1)	
	Not circumcised	-	-	204 (68.1)	-
Place of Residence					
	Urban	304	162 (44.9)	142 (48.0)	
	Rural	353	199 (55.1)	154 (52.0)	0.428
Pregnancy Status					
	Pregnant	-	95 (26.3)	-	
	Not pregnant	-	266 (73.7)	-	-
Polygamy					
	Polygamy	230	77 (21.3)	153 (51.7)	
	Monogamy	299	209 (57.9)	90 (30.4)	
	Not married	128	75 (20.8)	53 (17.9)	0.000
Paid sex					
	Paid sex	-	-	116 (39.2)	
	Not paid sex	-	-	144 (48.6)	
	Never had sex	-	-	36 (12.2)	-
Unsafe sex					
	Unsafe sex	377	226 (62.6)	151 (51.0)	
	Safe sex	176	80 (22.2)	96 (32.4)	
	Never tried sex	104	55 (15.2)	49 (16.6)	0.006
Traveler					
	Traveler	326	161 (44.6)	165 (55.7)	
	Not traveler	331	200 (55.4)	131 (44.3)	0.004

*p-value from χ^2 - test for difference in proportions and SD is standard deviation.

Table 2 depicts the association of demographic factors and H.I.V/AIDS infections in Mbeya region in 2011/12 (6). Individuals in different age groups and sex differ significantly in H.I.V/AIDS infections. There was no significant difference in H.I.V prevalence between circumcised and uncircumcised men in Mbeya region of Tanzania. But there were variations in H.I.V/AIDS infection among those individuals who stayed in urban and rural areas respectively. Also, the data showed that there were no variation in H.I.V infection between pregnant and unpregnant women, polygamous and monogamous, travelers and non-travelers. The study showed that there was a variation in H.I.V prevalence among those individuals who attended commercial sex, not attended commercial sex and the one who never had sex at all.

Table 2. Association between demographic factors and H.I.V/AIDS infection.

Variable	Category	Total	H.I.V (-) (%)	H.I.V (+) (%)	P-Value
Age group					
	(15-29)	347	305 (56.8)	42 (35.0)	
	(30-39)	196	138 (25.7)	58 (48.3)	
	(40-49)	114	94 (17.5)	20 (16.7)	0.000
Sex					
	Male	296	256 (47.7)	40 (33.3)	
	Female	361	281 (52.3)	80 (66.7)	0.004
Male Circumcision					
	Circumcised	92	79 (30.9)	13 (32.5)	
	Not circumcised	204	177 (69.1)	27 (67.5)	0.835
Place of Residence					
	Urban	304	217 (40.4)	87 (72.5)	
	Rural	353	320 (59.6)	33 (27.5)	0.000
Pregnancy status					
	Pregnant	95	69 (24.6)	26 (32.5)	
	Non-pregnant	266	212 (75.4)	54 (67.5)	0.155
Polygamous					
	Polygamous	230	194 (36.1)	36 (30)	
	Monogamous	299	234 (43.6)	65 (54.2)	
	Not married	128	109 (20.3)	19 (15.8)	0.107
Paid sex					
	Paid sex	116	90 (35.1)	26 (65.0)	
	Not paid sex	144	132 (51.6)	12 (30.0)	
	Never had sex	36	34 (13.3)	2 (5.0)	0.001
Unsafe sex					
	Unsafe sex	377	307 (57.2)	70 (58.3)	
	Safe sex	176	129 (24.0)	47 (39.2)	
	Never tried sex	104	101 (18.8)	3 (2.5)	0.000
Travelers					
	Travelers	326	261 (48.6)	65 (54.2)	
	Not travelers	331	276 (51.4)	55 (45.8)	0.270

*p-value from χ^2 - test for difference in proportions.

As it can be seen in this model, the odds of being infected by H.I.V/AIDS in the respondent ages were significantly higher. For example, the odds of being infected by H.I.V/AIDS in the respondent ages were 1.023 times higher.

As shown by male regression output, urban dwellers had more risk of being infected by H.I.V/AIDS than rural dwellers in Mbeya region-2011/12 (6). As we can see, the odds of being infected by H.I.V/AIDS were 2.523 times more for urban dwellers as compared to the rural dwellers.

Commercial sex (paid sex) had more effect on the prevalence of H.I.V/AIDS in Mbeya region-2011/12 (6). As it can be seen in the male regression output, the odds of being infected by H.I.V/AIDS in commercial sex were significantly higher as compared to the non-commercial sex. For example, the odds of being infected by the epidemic were 2.655 times more for paid sex than unpaid sex.

Table 3: Male model-regression output.

VARIABLES	B	Sig.	Exp(B)
Age	0.023	.042	1.023
Circumcision	-0.126	.754	.881
Locality-urban	0.925	.028	2.523
polygamy	0.759	.498	2.136
monogamy	0.249	.827	1.283
Paidsex	0.977	.013	2.655
Travelers	-0.393	.284	.675
Constant	-3.945		

The estimated Male model:

$Logit\,(Y)=-3.945+0.023X_1-0.126X_2+0.925X_3+0.759X_4+0.249X_5+0.977X_6-0.393X_7.$

Where: X_1= Age, X_2= Male circumcision, X_3= Place of residence-urban.

X_4= Polygamy, X_5=Monogamy, X_6= Paid sex, X_7=Travelers,

Y= H.I.V status.

As it can be seen in the female model, the odds of being infected by H.I.V/AIDS in the respondent ages were significantly higher. For example; the odds of being infected by H.I.V/AIDS were 1.048 times higher for respondent ages.

Regression output of 2011/12 - female model shows that, the odds of being infected by H.I.V/AIDS in urban dwellers were significantly higher than rural dwellers. For example as shown in the female model, the odds of being infected by H.I.V/AIDS in urban dwellers were 8.961 times higher than rural dwellers.

Polygamous had statistically significant effect on the prevalence of H.I.V/AIDS in the year 2011/12 in Mbeya region. Regarding polygamous, the likelihood of being affected by the epidemic has decreased among polygamists and monogamists as compared to their counterparts unmarried. For example, the odds of being infected by H.I.V/AIDS were 0.018 and 0.074 times less for polygamous and monogamous respectively as compared to the unmarried individuals.

Also, as we can see in the female regression output, unsafe sex had higher risk on the prevalence of H.I.V/AIDS. The odds of being infected by H.I.V/AIDS in an unsafe sex were significantly higher than its counterpart safe sex. For example, the odds of being infected by H.I.V/AIDS in an unsafe sex were 9.171 times higher than its counterpart safe sex.

Table 4:Female model-regression output

VARIABLES	B	Sig.	EXP(B)
Age	0.047	.013	1.048
Locality-urban	2.193	.000	8.961
Polygamy	-4.032	.000	.018
Monogamy	-2.610	.000	.074
Unsafesex	2.216	.000	9.171
Travelers	0.352	.257	1.422
Pregnancy	0.412	.224	1.510
Constant	-6.612		

The estimated female model:

$Logit\,(Y) = -6.612 + 0.047X_1 + 2.193X_2 - 4.032X_3 - 2.610X_4 + 2.216X_5 + 0.352X_6 + 0.412X_7$.

Where: X_1=Age, X_2=Place of residence-urban, X_3=Polygamy, X_4=Monogamy
X_5=unsafe sex, X_6=Travelers, X_7=Pregnancy status
Y= H.I.V status.

The general regression output, similar to other models that, the odds of being infected by H.I.V/AIDS in the respondent ages were significantly higher in general. For example in this general model, the odds of being infected by the epidemic in the respondent ages were 1.044 times higher.

According to regression output, the odds of being infected by H.I.V/AIDS in men were significantly less as compared to women in general terms.

Generally, regarding respondents sex, the likelihood of being infected by the epidemic has decreased among male individuals as compared to their female individuals in Mbeya region-2011/12 (6). For example, in general-regression output, the odds of being infected by H.I.V/AIDS were 0.613 times less for men as compared to women.

In general, the odds of being infected by H.I.V/AIDS in the urban areas were significantly higher than its counterpart's rural areas in 2011/12 (6). For example, in general regression Output, the odds of being infected by the epidemic was 5.636 times higher for urban areas as compared to rural areas.

As in the rural and female regression outputs, the general regression output also shows that the odds of being infected by H.I.V/AIDS in polygamous and monogamous were significantly less as compared to unmarried individuals. For example, the odds of being infected by the epidemic were 0.066 and 0.103 times less for polygamous and monogamous respectively as compared to unmarried individuals.

In general, the likelihood of being infected by the epidemic has decreased among polygamists and monogamists as compared to unmarried individuals.

The odds of being infected by epidemic in an unsafe sex were significantly higher than safe sex. For example, the odds of being infected by the epidemic were 3.152 times higher for an unsafe sex than safe sex. Generally, unsafe sex had more effect on the prevalence of H.I.V/AIDS in 2011/12-Mbeya region of Tanzania.

Table 5:General model-regression output

VARIABLES	B	Sig.	Exp(B)

Age	0.043	.002	1.044
Sex-male	-0.490	.049	.613
Locality-urban	1.729	.000	5.636
Polygamy	-2.720	.000	.066
Monogamy	-2.276	.000	.103
Unsafesex	1.148	.000	3.152
Travelers	0.093	.683	1.098
Constant	-5.463		

Estimated general model:

$Logit\,(Y) = -5.463 + 0.043X_1 - 0.490X_2 + 1.729X_3 - 2.720X_4 - 2.276X_5 + 1.148X_6 + 0.093X_7$.

Where:

X_1=Age, X_2=Sex-male, X_3=Place of residence, X_4=Polygamy

X_5=Monogamy, X_6=Unsafe sex, X_7=Travelers

Y = H.I.V status.

Generally, according to regression outputs, demographic factors had more effect on the prevalence of H.I.V/AIDS in 2011/12-Mbeya region. The most influencing factors among those demographic factors were:

Age: Age had more effect on the prevalence of H.I.V/AIDS in 2011/12 in Mbeya region, and prevalence was higher for ages 30-39 as compared to other age groups.

Sex: Female individuals had higher prevalence of H.I.V/AIDS than male individuals. In men prevalence has decreased, that means H.I.V prevalence was slightly lower among men in Mbeya region-2011/12 (6).

Unsafe sex: Most of the individuals used to practice sexual intercourse without preventive measures (condoms) and women were the most affected sex.

Place of residence: Locality had higher influence on the prevalence of H.I.V/AIDS and the most affected type of place of residence was urban areas in which infections of epidemic was higher compared to rural areas.

Paid sex or commercial sex: Men were the one who engaged in paid sex; especially those resided in urban areas. Rural men were most likely to have ever paid for sex.

Unmarried individuals also had higher risk of being infected by the epidemic in Mbeya region in 2011/12 as compared to polygamous and monogamous.

Discussion

This population based cross-sectional study tried to assess demographic parameters affecting the prevalence of H.I.V/AIDS in Mbeya region-2011/2012. Hence in this part all the explanatory variables which are demographic parameters included in this study were discussed in this section.

Respondent's age was among the demographic parameters which had significant effect on the prevalence of H.I.V/AIDS in 2011/2012-Mbeya region. The study involved individuals aged 15-49, researcher categorized respondent's age into three categories of age groups 15-29 years, 30-39 years and 40-49 years old. Result found that, the most affected age group were those individuals whose ages were in between 30-39 years old, individuals belonged in this group had higher risk of being infected by the epidemic. However the result is contrary to the theoretical background especially for female individuals, that the effect of age on H.I.V/AIDS prevalence among women, prevalence tends to peak between the ages of 25-29, with social and economic pressure

encouraging high-risk sexual behavior at early ages given by Garenne and Lydie (7). But, it is consistent to male individuals that in men, H.I.V/AIDS prevalence tends to peak at slightly older ages, usually between the ages of 30-35 and a lower level suggested by Williams et al. (8). Hence, according to this study, the middle aged individuals who were in thirties (30-39) were more vulnerable to H.I.V/AIDS infection than young aged group and older ones in Mbeya region.

Respondent's sex was another demographic variable which had significant effect on the prevalence of H.I.V/AIDS in Mbeya region. The most affected individuals on the prevalence of H.I.V/AIDS were women aged 30-39, and men aged 40-49.Women were affected more by H.I.V/AIDS, since because most of them had low economic status, and there is evidence to suggest that for biological reasons women may be at a higher risk of infection given by Garene and Lydie (7). According to Bud lender and Johnson (1), 'Prevalence levels are higher among women than men in a purely heterosexual epidemic". Also, it has been seen that poverty significantly influences the spread of H.I.V/AIDS, which ultimately leads to a loss of the most productive segment of the society, leading to reduction of income and suffering for individuals and communities. Hence respondent's sex as a demographic variable had more significant effect on the prevalence of H.I.V/AIDS in 2011/2012-Mbeya region.

In Mbeya male circumcision is not common; hence most of the male individuals were not circumcised especially rural residents. Number of male individuals circumcised was greater in urban areas than in rural areas. The study shows that prevalence of H.I.V among circumcised and uncircumcised men were statistically insignificant in Mbeya region. Although evidence from elsewhere in Africa suggests that societies in which male circumcision is common tend to experience lower H.I.V/AIDS prevalence levels see Monica and Muluye (9). Studies of H.I.V transmission, however produce varying results, some show significant associations between lack of circumcision and susceptibility to H.I.V transmission, while others do not find any significant relationship. Although the majority of studies suggest that there is some relationship between circumcision and H.I.V transmission, it is unclear how strong the relationship is. Garenne and Lydie (7) states that the risk of transmission from an infected female to an uninfected, uncircumcised male is roughly double than if the male is circumcised. In addition, circumcision reduces the incidence of ulcerative STDs, such as syphilis and chacroid, and this confers further benefit.

In this study, place of residence as a demographic variable had more effect on the prevalence of H.I.V/AIDS, and the most affected type of place of residence was urban areas. The result is contrary with that of Mmbaga et al. (10), that the magnitude of H.I.V-1 infection is high in some rural population in Tanzania, warranting coordinated care and prevention efforts. According to regression outputs, higher prevalence of H.I.V/AIDS were mainly found in urban areas, as expected, women and men residing in urban areas are more likely than those living in rural areas to be exposed to sexual networks, paid sex, drug abuse etc.

According to Mmbaga et al. (10) on the prevalence of H.I.V/AIDS in urban, semi-urban and rural areas in Arusha region, the study revealed that divorced and separated individuals had higher H.IV/AIDS prevalence compared with married individuals. This is somehow consistent to the result obtained in

this study that polygamous as one of the types of marriage had a lower H.I.V prevalence as compared to unmarried individuals. The prevalence of H.I.V has decreased among polygamists and monogamists as compared to unmarried persons in Mbeya region-2011/12.

The result is consistent with this study findings, that paid sex or commercial sex had higher risk on the prevalence of H.I.V/AIDS in Mbeya region. Those individuals who used to attend to commercial sex workers, according to regression result had more effect on the prevalence of H.I.V in Mbeya region. Urban dwellers are more likely than rural dwellers to attend to commercial sex workers. Women living in urban areas with low socio-economic status appeared to be associated with increased risk of H.I.V infection by Mmbagaet al. (11).

Pregnant women are likely to be infected by the epidemic since individuals are engaged to frequency sexual activity. However, it was parallel to the expectation, pregnant were found to be less likely to be H.I.V positive.

It is always known that unsafe sex has higher risk on the prevalence of H.I.V/AIDS, as it can be seen from regression result that this variable had more effect on the prevalence of H.I.V/AIDS in 2011/2012-Mbeya region. H.I.V prevalence was higher for those who performed sexual intercourse without preventive measures. Different studies showed that higher prevalence rate of H.I.V/AIDS is observed in urban areas compared to rural areas. The reason behind is that in urban areas there is a high prevalence sexual networking and its related factors are highly manifested is studied by Vylder& Stefan (12).The same result was found in this study i.e. the odds of being H.I.V positive were significantly higher in urban areas than rural areas. Women had higher risk of being infected by the epidemic since because women are financially dependent on their partners, hence they are unable to insist on safer sexual practices. Although knowledge of H.I.V/AIDS is often good, many people do not act on this knowledge, and many continue to engage in high risk forms of sexual behavior. Levels of education are also strongly associated with condom usage, with higher rates of condom usage likely among those with higher levels of education see Sekeitto et al. (13).

As it is discussed in the conceptual part, the state of sleeping away from home one or more times may lead to H.I.V prevalence. Traveler become infected while he/she is away then passes the virus on to his/her partner when he/she return home. Evidence suggests that transmission in the opposite direction may also occur. Garenne and Lydie (7) agree that marriage is no longer protective against H.I.V infection, since partners often become infected before they marry. Marriage is also not protective in couples that experience long separations due to migrant employment. However; it is quietly different from that, in this study travelers had insignificant effect on the prevalence of H.I.V/AIDS among male and female in Mbeya region-2011/12.

Conclusion

In this section, the research questions posed in this study will be answered by reviewing the result and discussion section. Let me start by identifying the underlying parameters attributed for the prevalence of H.I.V/AIDS in 2011/2012-Mbeya region. As I mentioned in the result and discussion sections among the underlying parameters, demographic variables have been revealed has significant effect on the prevalence of H.I.V/AIDS. Age and sex of the individuals had significant effect on the prevalence of H.I.V/AIDS for both male and female in 2011/2012-Mbeya, although female individuals were the most affected individuals. The findings showed that the odds of being H.I.V positive were higher in the middle aged groups 30-39, and the most affected individuals were female individuals. Those findings showed us that women were at risk in those urban communities.

Place of residence had more effect on the prevalence of H.I.V/AIDS in Mbeya region. Higher prevalence were mainly found in urban areas, where as urban residents had higher risk of being infected by the epidemic. Pregnancy status had statistically insignificant effect on H.I.V/AIDS prevalence in Mbeya region in 2011/12.

Other variables, unsafe sex and paid sex also had statistically significant on the prevalence of H.I.V/AIDS. Most of the urban residents used to practice unsafe sex and involved in commercial sex that's why more prevalence was found there. Traveling has been revealed to have insignificant effect on the prevalence of H.I.V/AIDS in Mbeya region.

However, male circumcision has been found to have less risk on the prevalence of H.I.V/AIDS for the year 2011/12-Mbeya region. And it is shown that prevalence of H.I.V/AIDS among polygamists and monogamists has declined as compared to unmarried persons.

In general, demographic parameters has attributed to the prevalence of H.I.V/AIDS in Mbeya region in 2011/12. A substantial number of those infected present with AIDS related symptoms and may be in need of ART.As a comprehensive response, prevention efforts should be intensified to target and addresses identified transmission parameters and include individuals of all ages. In urban areas, commercial sex workers should be targeted to capture those at risk of H.I.V infection. Concurrent attempts to expand access to treatments and care for those infected in urban and rural areas are needed as this will increase opportunity for prevention. Safe sex should be insisted by providing people with protective measures and then insisting them to use it regularly.

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