

# Drivers Of HIV Preventive Service Uptake Among Boda-Boda Operators In Homa-Bay Town

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**Abstract:** *The mobility of the transport sector makes it difficult to access health information and treatment and/or maintain a drug regimen. The study adopted three theories, key among the theories was theory of reasoned action due to the fact that it sees a person's behavior as an intention which is a function of one's attitude towards behavior and their subjective norm. This was a mixed methods descriptive cross-sectional study. The study targeted male boda-boda operators who were aged between 20-40 years. The sample size for the study was 122. In the multivariate analysis, occupation of the respondent, marital status and highest level of education attained were significantly associated with HIV prevention services uptake. Participants who reported owning a business, either (Duka, Kiosk or Juakali) were about 38% less likely to utilize any of the services compared to those who reported farming as their other source of income occupation (PR=0.62, 95% CI 0.62-0.96); whereas in terms of marital status, divorced/separated were two-fold likely to use any of the two services compared to the married in a monogamous family (PR=2.13, 95% CI 1.36-3.33). Those respondents reporting having attained primary level of education as the highest were 1.3 more likely to utilize any of the services compared to those reporting secondary as the highest level of education (PR=1.33, 95% CI 1.00-1.78). The study recommends to the ministry through NACC to create flexible HIV testing hours in order to reach all the operators with testing services, put emphasis to increase the utilization of HIV prevention methods through education, there is also a need to target operators with higher educational levels, those that own business and married monogamous to increase their ability to effectively utilize HIV preventive methods.*

**Keywords:** *Patterns, Utilization, HIV preventive services*

## I. INTRODUCTION

Human Immunodeficiency Virus (HIV) /Acquired Immunodeficiency Syndrome (AIDS) are major public health concerns and challenge facing both developing and developed nations (UNAIDS, 2010). In the last 30 years, the HIV/AIDS epidemic has emerged as one of the major challenges for the world, going from a relatively small problem in the 1980s to one of the leading causes of mortality and burden over the last decade (Murray et al, 2012). The current global trend is towards a larger share of disease burden coming from non-communicable diseases and injuries; however, HIV/AIDS is a dramatic exception. Mortality and burden from HIV/AIDS increased steadily until around 2004, against the general trend of declining infectious diseases.

Owing to the nature of their work, bodaboda operators are faced with a lot of risks of HIV infections. A study on Kwazulu Natal truck drivers showed that they are faced with a lot of risk like low condom use and sorting the services of FSW (Marcus, 1997). Taxicab and tricycle drivers are a high-risk group who engage in sexual practices that place them at greater risk for contracting HIV/STI. The nature of their profession brings them in close contact to the nightlife and the CSWs whom they frequent and often places them in the position of being contacts for these workers (Kohli *et al*, 2017). Efforts by both governmental and non-governmental organizations have been directed towards solving this problem including a number of services e.g. condom use, VMMC and TAS offered and research have also been done in this area with the aim of finding a lasting solution (NAS COP, 2005).

Most people living with HIV or at risk of HIV acquisition do not have access to prevention, care, and treatment, yet there is still no cure. Although HIV testing capacity has increased over time, enabling more people to learn their HIV status, nearly half of all people with HIV are still unaware they are infected (UNAIDS, 2015).

Homa-Bay County is the leading County in Kenya with an HIV prevalence of 25.7% compared with the national prevalence of 5.6%. (NACC, 2014). Boda-boda operators are a high risk group who involve themselves in HIV risk behaviours such as having sex with multiple sex partners, low condom use with non-regular partners, use of drugs and alcohol (NASCO, 2005). There is also documented evidence of boda-boda operators giving free rides to clients in exchange for sex (NASCO, 2005). These among others put this group at risk of HIV infection. The role of transportation drivers, particularly long-haul truckers and CSWs in the spread of HIV/STI has been studied in many settings. However, most of these studies focus on risk behaviors and the epidemiology of HIV/STI among truck drivers (Kohli *et al.*, 2017). For example, research has shown that transport workers have specific healthcare needs due to the nature of their work which includes disproportionate health burden, including high rates of STI and HIV, respiratory diseases, backache, leg pains etc (CDC, 2007). The occupational circumstances that make them susceptible to worst health outcomes include irregular schedules, sedentary lifestyles due to long hours of driving/sitting and poor access to health care (Aniebui & Aniebui, P., & Aniebui, U, 2009). Very few data are available on HIV/STI prevention programs among transportation drivers (few studies such as Morris and Ferguson (2005) and Strauss *et al.*, (2018) have been done in the country to look at service utilization) and, specifically on patterns of utilization of HIV preventive services among boda-boda operators.

Despite the various measures that have been put in place to curb the spread of the virus e.g. condom use, VMMC and TAS, Homa-Bay County still leads with the highest number of new infections. There is need for targeted interventions which could have significant impact in averting HIV infections related trans-Africa highway (Morris, 2005). This study therefore sought to address this issue by investigating the patterns of utilization of HIV preventive services among boda-boda operators in Homabay town in Homabay county, Kenya. In Homabay town there is paucity of data to describe the patterns of utilization of HIV preventive services exhibited by this group, to help in formulating policies and strategies for HIV prevention to target them within this rural community, the entire country and beyond. This will also create an appropriate background to developing a sustainable remedy to the problem.

## II. METHODS

### STUDY DESIGN

This was a cross sectional study with both descriptive and analytical components.

### STUDY AREA AND STUDY POPULATION

The study was done in Homa-Bay town in Homa-Bay county. It is the county's headquarters. It has a boda-boda operators' population of 1120. The study population was mainly boda-boda operators operating within Homa-Bay town.

### SAMPLE SIZE DETERMINATION AND SAMPLING

Gay (1981) 10% recommendation for adequate sample size was used to determine the sample size among the 1120 operators within Homa-Bay town by May 2017. A total of 112 operators (main respondents) 10 group leaders (key respondents) were recruited. Homa-Bay town was clustered into 7 clusters, one registered boda-boda group was picked from each cluster for the study. The actual number of operators from each group for eventual sample size was proportionate to the total number of the sample size.

### DATA COLLECTION

Pre-tested questionnaires in English were used for data collection. Pre-testing of questionnaires was done on 10 operators prior data collection to ascertain homogeneity and clarity of the questions. Questionnaires were given after risk and benefits of the study were well to each of the participants and research assistants were used to support questionnaire administration. Questionnaires were administered to main respondents while in-depth interviews were conducted on key respondents who were boda-boda group leaders.

### DATA ANALYSIS

Logistic regression analysis model for multivariate analysis was used to determine drivers affecting the uptake of HIV preventive services among boda-boda operators in Homa-Bay town. Level of significance at 0.05 ( $p=0.05$ ) with a 95% Confidence Interval. A  $p$ -value less than 0.05 was considered significant.

### ETHICAL CONSIDERATION

Introductory letter from Rongo university was obtained by the researcher which allowed her to apply for research permit from the National Council for science and Technology to conduct research in the study area. Permission was also requested from the area administrative office to carry out research in the area. Other relevant stake holders like the district health management team were informed about the study.

## III. RESULTS AND DISCUSSION

### A. SOCIO-DEMOGRAPHIC INFORMATION ON STUDY PARTICIPANTS

The socio-demographic characteristics of the 112 Boda-boda operators taking up HIV preventive services were highlighted. Upon obtaining consent from the boda-boda

operators, socio-demographic characteristics which included age, education, marital status and religion were first filled for each operator. In addition to these, they operators were also required to indicate whether they have spent way from home or not. If yes, they were required to indicate the number of days spent away from home in a week.

Out of the total number of respondents interviewed, majority 37.5% were between twenty six and thirty years of age, 22.3% were between 20 and 25 years of age, 20.8% were between the age of 31 and 35 years of age while only 13.4% were between the age of 36 and 40 years of age.

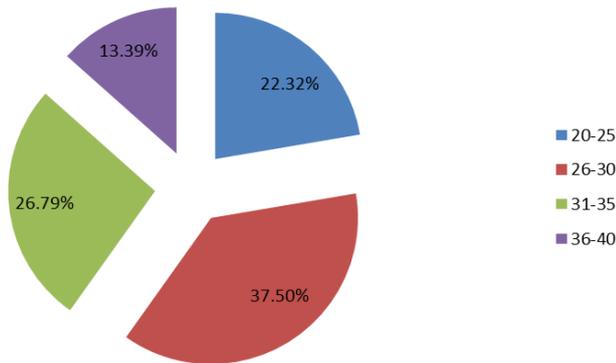


Figure 4.1: Distribution of age categories of boda-boda operators in Homabay town

This could be attributed to the fact that majority of the youths are not employed because there are little formal job opportunities compared to the number of youths in the country. This therefore, makes bodaboda industry more attractive for many youths. This can also be as a result of the fact that bodaboda industry requires individuals who have energy to carry heavy luggage for example carrying two or more customers, work for long hours under harsh climatic conditions and operate in routes that, in some instances, are impassable.

With regard to education majority of the respondents, 73.22% went through secondary education, 16.96% had gone through primary education, 6.25% went through colleges, 2.89% went through university while only 0.89% did not go through formal education.

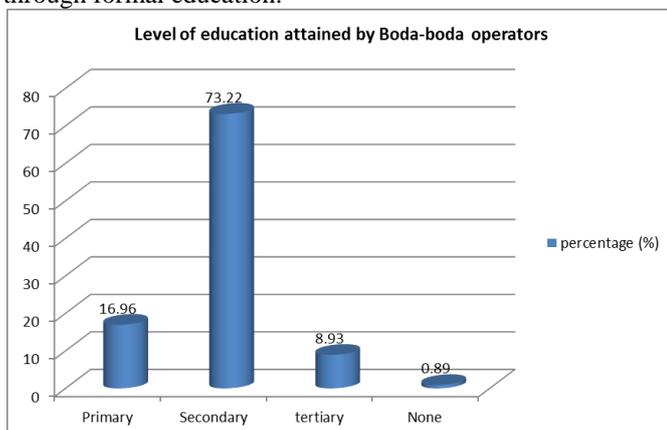


Figure 4.2: Highest level of education of boda-boda operators

This could be as a result of the fact that bodaboda industry does not require specialized skills and therefore, anyone who can operate a motorbike can join the industry.

The few number of those who have gone to colleges and universities can be as a result of the fact that the society still values university and college certificates and views it as a prestigious achievement thus very few graduates join this industry despite the fact that there are no job opportunities in the country for them.

This agrees with the findings that the less the education the higher the proportion of young people in informal sector (UNDP, 2013), as shown above with most of the operators attaining secondary education as the highest level of achievement.

Majority of the respondents reported being in a monogamous marital relationship (53.57%), 32.14% reported being single with 11.61% reporting being married polygamously. Only 2.68% reported being divorced or separated. The high number of the married operators could be attributed to the fact that majority of the population is made up of young operators who might have just married or are having young families.

N=112	n	Percentage (%)
Single	36	32.14
Married Monogomous	60	53.57
Married Polygamous	13	11.61
Divorced/Seperated	3	2.68

Table. 4.1: Marital Status of boda-boda operators

The small percentage of those married monogamous or divorced could be brought about by the small percentage of those aged between 36 and 40 years of age.

It was also reported that 63.39% of the respondents have spent a day or more away from their spouses in a week while 36.61% have never spent away from their spouses. The majority of the operators spending a night or more away from home may be brought about by the fact that many operators might have taken clients to far off places and riding back at night to their homes may have been risky due to insecurity cases

This may be attributed to the fact that they spend long hours on the road away from home and in some cases they may have ferried customers or goods to far off places.

#### DRIVERS AFFECTING UPTAKE OF HIV PREVENTIVE SERVICES

Predictors to utilization of HIV prevention services among the Bodaboda operators were examined. In the analysis, condom use, circumcision, abstinence and being faithful as a means of protection against contracting HIV were the variables considered. If a respondent reported any of the above strategies as a means of prevention against HIV, then he or she was considered to have used a strategy to prevent against HIV. If a respondent did not use all of the above prevention strategies for prevention against HIV, then he was considered to never have used a prevention strategy. As of importance to note is the fact that this analysis did not consider HIV testing as a prevention strategy but as a strategy for knowing one's HIV status. Employing generalized linear modelling framework and log-binomial regression, the study modelled occurrence of service utilization and compared it among categories of explanatory variables using crude and

multivariable-adjusted prevalence ratios (PR) and 95% confidence intervals (CI). Variables significant at <0.25 level in univariable analysis were further examined using multivariable regression model. Potential confounding effect of each covariate and two-way interactions were examined. Predictor variables were considered to be statistically significant at 0.05 level. The analyses were completed using STATA version 14.1 (STATA Corporation, College Station, Texas, USA).

Socio-demographic factors that influence the likelihood of bodaboda operators utilizing HIV preventive methods were then examined to ascertain whether they influenced uptake of these services. In the multivariate analysis, occupation of the respondent, marital status and highest level of education attained were significantly associated with HIV prevention services uptake.

Participants who reported owning a business, either (Duka, Kiosk or Juakali) were about 38% less likely to utilize any of the services compared to those who reported farming as their other source of income occupation (PR=0.62, 95% CI 0.62-0.96); whereas in terms of marital status, divorced/separated were two-fold likely to use any of the two services compared to the married in a monogamous family (PR=2.13, 95% CI 1.36-3.33). Those respondents reporting having attained primary level of education as the highest were 1.3 more likely to utilize any of the services compared to those reporting secondary as the highest level of education (PR=1.33, 95% CI 1.00-1.78).

Variable level	HIV Service uptake	Adjusted Prevalence Ratio		p-value
	Prevalence <sup>‡</sup>	95% CI		
<b>Age group in years</b>				
21-25	77.4	Ref		
26-30	73.3	1.05	(0.70, 1.57)	0.810
31-35	52.7	0.73	(0.48, 1.11)	0.145
36-40	61.3	0.84	(0.54, 1.30)	0.432
<b>Occupation</b>				
Farmer	77.7	Ref		
Fisherman	69.0	0.88	(0.60, 1.31)	0.533
Small business (sells maize etc)	83.9	1.04	(0.68, 1.57)	0.861
Business owner (Duka, Kiosk, Juakali)	47.8	0.62	(0.39, 0.96)	0.034
<b>Marital status</b>				
Married monogamous	63.4	Ref		
Single/never married	68.2	0.93	(0.61, 1.41)	0.724
Married polygamy	71.2	1.01	(0.61, 1.68)	0.955
Divorced/separated	-	2.13	(1.36, 3.33)	0.001
<b>Level of education attained</b>				
Secondary	62.8	Ref		
Primary	81.5	1.33	(1.00, 1.78)	0.047
Post-secondary	82.5	1.24	(0.91, 1.69)	0.181

‡: Adjusted prevalence

OR: odds ratio, CI: confidence Intervals

Table: 1.2: Regression analysis outcomes for predictors to HIV service utilization

The results presented here show that occupation of the respondent, marital status and level of education attained were

likely to influence service uptake among the bodaboda operators.

According to this study religion and ethnicity did not affect the uptake of HIV preventive services. However the findings suggest that the higher the education level of the respondents the less likely they are to utilize HIV preventive services with those attaining lower level of education (primary education) more likely to utilize HIV preventive services. This is consistent with Yonge *et al* (2017) that examined predictors of condom and voluntary counseling and testing services utilization and found out that those with primary education were more likely to use condoms as compared to those who have secondary education and above. This can be attributed to the fact that those with secondary and above were mostly older and may be resistant to change than individuals with primary education who may be friendly to accept ideas and advices to prevent HIV infection.

Findings from this study did however not agree with findings of Apanga *et al* (2015) on a study looking into factors influencing uptake of voluntary counseling and testing services for HIV/AIDs that found out that the findings suggest that the higher the educational level of respondents, the more likely that they will use VCT services.

This also agrees with the finding that men of higher education and living in urban areas are more likely to know about the importance of HIV preventive services which in turn affects utilization of these services (Carrasco *et al*, 2017)

The study also shows that economic statuses of the respondents also affect HIV preventive service utilization with those who reported owning a business, either (Duka, Kiosk or Juakali) were about 38% less likely to utilize any of the services compared to those who reported farming as their other source of income. This finding agrees with the finding that poverty is one of the barriers that affect the utilization of HIV preventive services such as condom (Matovu and Ssebadduka, 2013)

The findings also shows that the respondents who are divorced/separated were two-fold likely to use any of the services compared to the married in the monogamous family. This could be attributed to the fact that those in monogamous union have developed a sense of trust in their partners thus feeling no need of using HIV preventive services. It can also be as a result that those who are not married monogamous might be having several casual sexual partners that makes them have high risk perception thus utilizing HIV preventive services. However, these findings does not agree with the findings of Ziriba *et al* (2011) conducted in Nairobi which found out that unmarried males were less likely to be tested and counseled for HIV as compared to married males. This could be because males in Nairobi are exposed to different socio-economic and cultural characteristics. Additionally the study period might influence the association.

#### IV. CONCLUSION AND RECOMMENDATIONS

The study has also shown that education level, economic status and marital status affect the uptake of HIV preventive services as shown in (Table 4.2). It was found that the higher the education level of the respondents the less likely they are

to utilize HIV preventive services. The study also showed that economic status also affect HIV preventive service utilization with those who reported owning business (duka, kiosk or juakali) were about 38% less likely to utilize any of the services compared to those who reported farming as their other source of income. It was also found out from the study that operators who are divorced/separated were two-fold likely to use any of the services compared to the married in the monogamous family. These highlight the need to target operators with higher educational levels, own business and married monogamous to increase their ability to effectively utilize HIV preventive methods.

In regard to the drivers affecting uptake of HIV preventive services, the study concludes that education level, economic status and marital status are the drivers affecting the uptake of HIV preventive services. Operators with higher education levels, owners of business other than boda-boda operation and are married monogamous were less likely to take up the preventive services.

The study recommends to the County Government through County Ministry of health to come up with programs that target couples, operators with higher education level and owning other businesses to improve the uptake of HIV services among these three groups of operators.

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