

Peer Education and Behaviour Change on HIV/Aids Prevention in Secondary Schools in Rachuonyo District, Kenya: Prospects and Policy

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Abstract

By the end of 2012, about 1.2 million Kenyans were living with the HIV virus; which is expected to reach 1.8 million by 2015, mainly due to new infections. The age bracket 15-24 years provided opportunity for interventions such as peer education to prevent new infections and save future generations from the scourge. The aim of this study was to determine the difference between peer education club members (beneficiaries) and non-members (non-beneficiaries) in terms of behaviour change indicators, including abstinence, faithfulness to a partner, condom use and HIV testing. The study covered eight public secondary schools in Rachuonyo County, where peer education clubs had been operational for two years. The static group comparison design was applied to guide the research process, and primary data sourced from 260 beneficiaries and 212 non-beneficiaries. Club membership and class registers were used to develop sampling frames for beneficiaries and non-beneficiaries, respectively. Systematic random sampling procedure was applied to select participants and Fisher's formula used to determine sample sizes. Quantitative analysis techniques included cross-tabulations with Chi square statistic, beta co-efficients (?), and odds ratios [Exp (?)]. The study found that 27 (10.4

Index terms— peer education, behaviour change, abstinence, faithfulness, condom use, hiv/aids prevalence. public secondary schools. beneficiaries, non beneficiarie

1 Introduction

he HIV and AIDS pandemic remains a critical challenge to the Kenyan population, with farreaching consequences in all sectors of the Kenyan economy, despite strong interventions spearheaded by the Government in collaboration with development partners. By the end of 2012, about 1.2 million Kenyans were living with the HIV virus (National AIDS and STI Control Programme ??NASCOP 2009] and Ministry of Health [MoH] (2013); the number is expected to reach 1.8 million by 2015, mainly due to new infections (NACC and NASCOP, 2012). The Kenya Demographic and Health Survey (KDHS) report 2008/09 places the HIV prevalence among adults aged 15-49 years at 6.3 percent (KNBS and ICF Macro, 2010). The Kenya AIDS Epidemic Update 2011 estimated HIV prevalence among the adult population at 6.2% (NACC and NASCOP, 2012); while the Kenya AIDS Indicator Survey 2012 reported a prevalence rate among adults aged 15 to 64 years at 5.6% ??NASCOP and MoH, 2013). Existing literature reveal outstanding regional variations regarding the burden of HIV in Kenya, with the Nyanza region reporting the highest prevalence at 15.1 percent, while Eastern North region recorded the lowest prevalence rate at 2.1 percent ??NASCOP and MoH, 2013). Overall, Nyanza accounts for about one-half of the 1.2 million Kenyans living with HIV virus (KNBS & ICF Macro, 2010; ??ASCOP and MoH, 2013). By the end of 2011, Rachuonyo District, which forms part of the Nyanza region, reported a prevalence rate of about 32.1

percent (NACC and NASCOP, 2012), up from 30.0% reported in 2008 (NACC, 2008). Among the youth aged 15-24 years, the prevalence rate averaged 3.8% (NACC and NASCOP, 2012). By gender, the prevalence rate stood at 5.6% for young women and 1.4% for young men aged 15-24 years, implying that young women were four times more likely to be infected than young men (NASCOP, 2009; NACC and NASCOP, 2012).

As indicated by the 2009 AIDS Epidemic Update Report, the youth aged 15-24 years account for about 45% of HIV transmission worldwide, an indication that they are highly vulnerable to HIV infection (UNAIDS/WHO, 2009). The Kenya Demographic and Health Survey (KDHS) report 2008/09 indicates that about 70 percent of Kenyans have their first sexual experiences within this age bracket (KNBS and ICF Macro, 2010). The high vulnerability of young people to HIV infection is attributed to behavioural and physiological predispositions as well as socio-economic and cultural factors such as rampant poverty, inadequacy of correct information on reproductive health issues, including HIV and AIDS; drug abuse and alcoholism as well as peer influence, among others (Allan Guttmacher Institute [AGI], 2004; UNAIDS, 2008).

Further, the HIV virus spreads fastest and furthest in conditions of poverty, powerlessness ignorance and inadequate youth-friendly health services -conditions in which many young people in the SSA live (UNAIDS, 2008). Where people have no adequate access to basic needs such as food, clothing and housing, daily struggle to survive takes the bulk of their energy and resources. Young people in such places pay more attention to other pressing needs than safeguarding their sexual and reproductive health (UNFPA, 2005). A little earlier, the United Nations General Assembly Special Session on HIV/AIDS (UNGASS) noted that poverty, underdevelopment and illiteracy are the principal factors encouraging the spread of HIV virus among young people in developing countries (United Nations, 2001).

The brighter side of the youthful age bracket (15-24 years) is that it is a critical group in the war against HIV and AIDS. It provides a window of opportunity through which appropriate interventions can be initiated to save future generations from the HIV and AIDS menace (Pikard, 2009). In view of this, the Government of Kenya (GoK) and various development actors have initiated interventions targeting youths in school and those out of school. One such intervention is the school-based peer education project in Rachuonyo District whose purpose was to empower young people with information covering a wide range of topics, including youth relations and sexuality, life skills and living values, sexually transmitted infections, understanding HIV and AIDS, risk assessment and prevention, positive living as well as drug and substance abuse. The beneficiaries were expected to make informed decisions about their sexual behaviour; thus, avoid early pregnancies as well as sexually transmitted infections, including HIV and AIDS.

The project was implemented in selected secondary schools and after two years, an end line evaluation was commissioned to assess its impact on the sexual behaviour of in-school youths. Impact was defined as positive or negative changes in the life of targeted beneficiaries, which in this case, were measured in terms of abstinence, faithfulness to one uninfected partner, consistent use of condoms and HIV testing as key indicators of behaviour change. In this regard, the study sought to determine whether peer education club members were significantly different from non-members regarding the key indicators.

2 II.

3 Literature Review

Peer education is an approach, a communication channel, a methodology and an intervention strategy for behaviour change (UNAIDS, 1999; Population Council, 1999). Peer education involves training, equipping, supporting and facilitating selected members of a group to reach out to their peers with information and skills with a view to influencing knowledge, attitude, behaviour and practices (UNAIDS, 1999; Walker et al., 2004). Peer group members share demographic characteristics such as age and gender, as well as risk behaviours such as premarital sexual networks, commercial sex work or intravenous drug use (Grusec, 1992).

As noted by the Population Council (1999), peer education is a strategy for effecting change at the individual level by modifying a person's knowledge, attitudes, beliefs and behaviors. However, peer education may also create change at group or societal level by modifying norms and stimulating collective action that contributes to changes in policies and programs. Worldwide, peer education is one of the key strategies used in the war against HIV and AIDS pandemic (Population Council, 1999; Siyaya, 2007). Furthermore, Siyaya (2007) points out that peer education is a strategy founded on the premise that a person's peer group has greater influence on the choices and decisions they make and eventually on their behaviors and practices.

Peer education exerts positive pressure on individuals to conform to prescribed behaviors voluntarily with full understanding of the consequences associated with non-conformance (UNAIDS, 1999). It anchors on the assumption that young people are more likely to trust their peers; and can talk about sexuality issues in their own language and style more freely than if they were to talk about the same with their parents (Siyaya, 2007). Similarly, (Lant and McFeely, 2004) points out that young people prefer learning from and with their peers. As members of the target group, peer educators are assumed to have a level of trust and comfort with their peers, which allows for open discussions of sensitive topics (Campbell & MacPhail, 2002).

Peer education is founded on several behavioral theories, including Social Learning Theory (SLT), Theory of Reasoned Action (TRA), as well as Diffusion of Innovation Theory (DIT). SLT holds that all social behaviors are acquired primarily by observing and imitating the actions of influential models within the social environment.

In this regard, significant others (role models) are capable of eliciting behavioural change in certain individuals, based on the individual's value and interpretation system (Bandura, 1986). Similarly, TRA asserts that one of the influential elements for behavioral change is an individual's perception of social norms or beliefs about what people who are important to the individual do or think about a particular behavior (Fishbein & Ajzen, 1975).

Furthermore, DIT posits that certain individuals (opinion leaders) from a given population act as agents of behavioral change by disseminating information and influencing group norms in their community (Rogers, 1983). Peer education draws from the elements of each of these behavioural theories as it implicitly asserts that certain members of a given peer group (peer educators) can be influential in eliciting behavioural change among their peers (UNAIDS, 1999).

A review of existing literature reveals that peer education interventions have been used with a number of target populations in developing countries, including youth (Agha & van Rossem, 2004), commercial sex workers (Morisky, Stein, & Chaio, 2006), and intravenous drug users (Broadhead, Volkanovsky, Rydanova & Ryabkova et al., 2006), among others. Similarly, various studies have been conducted to evaluate the impact of peer education on behaviour change. The studies reviewed indicated that peer education had a positive impact on behaviour change, as well as on the incidence of Sexually Transmitted Infections (STIs); thus, providing evidence of its value for HIV/AIDS prevention, care, and support.

Katzenstein, McFarland, Mbizvo and Latif et al. (1998) conducted a study, which covered 2,000 factory workers in Zimbabwe. The study applied the post-test only control group design, where the intervention group was provided with HIV counselling, testing and peer education, while the control group was provided with counselling and testing services only. The study found that HIV incidence in the intervention group was 34% lower than incidence among members of the control group.

In Philippines, Morisky et al. (2006) assessed the impact of peer education on the behavior of commercial sex workers (CSWs). The study covered 1,394 participants and applied a quasi-experimental design with four groups. The first group was treated with peer education with CSWs; group two included managers and supervisors who were trained on condom-use support and policies with no peer education; the third group consisting of CSWs and bar managers were provided with peer education and trained on condom-use; while the fourth group received no intervention. The study found a significant change in knowledge, attitudes and self-efficacy of CSWs and managers. Besides, a significant improvement in STI clinic attendance and reductions in STIs were observed in the intervention sites as compared to the control site. Furthermore, the results indicated zero infections in the intervention sites against four seropositive cases in the control site.

In Zambia, Kathuria, Chirenda, Sabatier and Dube (1998) applied a quasi-experimental design to assess the impact of peer education on behavior change among commercial sex workers (CSWs). The study had two groups, the first group, consisting of three communities, was treated with peer education, condom distribution and STIs care. The second group, consisting of two communities had no intervention. The study found that in the intervention communities, the rate of syphilis infection declined by a margin ranging between 47% and 77%, as opposed to the control sites where the infection rate grew over the study period. The variation was attributed to the intervention.

Still in the United States, Kirby et al. (1997) assessed the impact of peer education on various outcome indicators, including onset of intercourse and condom use. The study covered a total of 1,657 inschool youths, from where two groups were created. The first group was treated to peer-led interactive HIV/AIDS and pregnancy prevention curriculum, emphasizing skill-building plus existing middle school sexual health curriculum. The second group was designated 'the control group' and used the existing middle school sexual health curriculum only. The study found that the intervention curriculum significantly increased HIV/AIDS and reproductive health-related knowledge in the intervention classrooms than in the control classrooms. However, the intervention significantly improved only 2 out of 21 sexual attitudes and beliefs related to HIV prevention and pregnancy.

4 III.

5 Design and Methods

The study applied the static group comparison design, with both quantitative and qualitative approaches to source, process and analyse the requisite information. It targeted youth public day secondary schools, where peer education club members (beneficiaries) and non-members (nonbeneficiaries) were the respondents. Club membership and class registers were used to develop sampling frames for beneficiaries and non-beneficiaries, respectively. Fisher's formula of sample size determination from finite populations was used to determine sample sizes in each group and systematic random sampling procedure was applied to select nonbeneficiaries. Peer education club members were selected on the basis of consistent and active membership for at least one year as guided by club patrons.

County education authority and school boards were informed about the study and approval obtained. Participants were consented to ensure voluntary participation. Primary data was collected in February 2011, where self-administered questionnaires were issued to the students and collected after 45 minutes. Participants were requested not to indicate their names on the questionnaires to conceal their identity improve confidentiality and encourage them to share personal information about their sexual behaviours. At the end of the exercise,

472 participants including 260 peer education club members and 212 non-members had provided the requisite information.

Both quantitative and qualitative data processing and analysis techniques were used in the study. Quantitative data analysis included descriptive statistics, cross-tabulation with chi-square for nominal and ordinal-scaled variables, and Pearson's correlation coefficient and one-way analysis of variance (ANOVA) for interval scaled variables. Binary logistic regression model was fitted to determine the impact of peer education on the key indicators of behaviour change, including abstinence, faithfulness to one uninfected partner, consistent use of condoms and HIV testing. The output parameters of interest include beta co-efficients and odds ratios. Furthermore, qualitative data were transcribed, clustered into nodes, followed by thematic analysis and interpretation. (Nachmias & Nachmias, 1996; Bryman & Cramer 1997).

IV.

6 Results

The study covered 472 participants, of which 260 (55.1%) were members of peer education clubs (beneficiaries), while 212 (44.9%) were non-members (non-beneficiaries). Table 1 shows that the participants included 242 (51.3%) boys and 230 (48.7%) girls and were aged between 16 and 21 years. More specifically, 206 (43.6%) were aged below 17 years, 235 (49.8%) were in the 18-19 years aged bracket, while 31 (6.6%) indicated ages above 19 years. The results show 258 (54.7%) participants were in form three, while 214 (45.3%) indicated the fourth form. The results in Table 1 show that 177 (37.5%) participants were protestants, 115 (24.4%) mentioned Seventh Day Adventist faith, while 98 (20.8%) were Catholics. Religious affiliation may play a key role in shaping personal and community values and sexual behaviours. Up to 148 (31.4%) participants were total orphans, having lost both parents, while 142 (30.1%) indicated that either parent was alive. Notably, orphans may be compelled by economic circumstances to engage in risky sexual behaviours to support themselves as well as next of kin.

Further, the results show that out of 472 participants, 293 (62.1%) did not miss out on school for more than a week over the reference period, hence were considered to be consistent, while 179 (37.9%) indicated that they were not consistent with school attendance. Schooling consistency is important in two ways; firstly, consistent attendance ensures learning continuity, both in class and in peer education clubs. Secondly, consistent school attendance reduces contact with outof-school youths who may exert negative peer pressure and influence. Furthermore, cross-tabulation analysis revealed that beneficiaries and non-beneficiaries were homogenous in all the background attributes captured by the study; suggesting that variations in behaviour change indicators may be attributed to project's interventions.

Abstinence and faithfulness to one uninfected partner are among the indicators of behaviour change for which the peer education project advocated. The results shown in Figure I indicated that out of 472 youths, up to 437 (92.6%) had ever engaged in sexual relationship with a person of the opposite sex over the preceding 18 months period; suggesting that only 35 (7.4%) were likely to be practicing abstinence. Across the groups, the results in Figure 1 show that 233 (89.6%) beneficiaries compared to 204 (96.2%) non-beneficiaries had ever engaged in sexual intercourse. Based on the result, the cross-tabulation analysis obtained a computed χ^2 value of 9.357, with 1 degree of freedom and a p-value of 0.027, which is significant; suggesting significant variation between beneficiaries and nonbeneficiaries in terms of abstinence from premarital sexual relationships. Of the 437 participants who had been sexually active over the preceding 18 months period, 276 (63.2%) indicated having only one partner, while 161 (36.8%) had multiple partners. Figure 1 shows that among those who had engaged in sexual relationships over the reference period, 166 (71.2%) were project beneficiaries, while 110 (53.9%) were non-beneficiaries. The analysis obtained a computed χ^2 value of 10.666, with 1 degree of freedom and a p-value of 0.001, which is significant at 0.01 error margin. This suggests up to 99.9% chance that beneficiaries and non-beneficiaries were significantly different in terms of sexual activeness over the reference period.

Out of 472 respondents used in the study 437 participants who had been sexually active over the reference period were further asked to indicate if they used a condom the last time they had sexual intercourse. The results showed that 241 (55.1%) participants had used a condom; while up to 196 (44.9%) did not. Across the groups, up to 142 (60.9%) beneficiaries compared to 99 (48.5%) non-beneficiaries had used a condom. Based on this, the analysis All the participants were requested to indicate if they had ever taken HIV test? The results showed that 109 (23.1%) had taken the test, while the majority, 363 (76.9%) had not. Further analysis indicated that those who had taken HIV testing included 74 (28.5%) beneficiaries and 35 (16.5%) non-beneficiaries. Based on this, analysis revealed the existence of significant variation between beneficiaries and non-beneficiaries regarding HIV testing (computed χ^2 value = 9.393; 1 df and p-value = 0.002).

Bivariate results in the preceding sub-sections indicated that the beneficiaries and non-beneficiaries varied significantly in terms of all the four indicators of behaviour change, including abstinence, faithfulness to one uninfected partner, consistent use of condoms and HIV testing as key indicators of behaviour change. To determine whether the project created a significant impact on the behaviour of beneficiaries, the study incorporated the variables into binary logistic regression models using the 'enter method'. This process generated four regression models, one for each behaviour change indicator as summarized in Table 2. The first model shows that beneficiaries had about 2.6 times the odds of abstaining from premarital sex as non-beneficiaries (χ^2 = 0.946, SE = 0.189, CI = 1.78-3.73). Model 2 shows that beneficiaries were about 3.3 times as likely to practice faithfulness to an uninfected partner as non-beneficiaries (χ^2 = 1.197, SE = 0.272, CI = 1.94-5.64). In

the third model, the results show that beneficiaries had about 2.6 times the odds of using condoms consistently as non-beneficiaries ($\chi^2 = 0.969$, $SE = 0.186$, $CI = 1.83-3.78$). Lastly, model 4 indicates that beneficiaries had 2.1 times the odds of taking HIV test as non-beneficiaries ($\chi^2 = 0.764$, $SE = 0.181$, $CI = 1.506-3.061$). Based on the Wald statistic, the project created the greatest impact in terms of condom use consistency, followed by abstinence, faithfulness to a partner and HIV testing.

The analysis obtained a Nagelkerke's R^2 of 0.260, implying that model 1 predicted up to 26.0% of variance in abstinence; and suggesting a fairly strong relationship between beneficiary status and abstinence from premarital sexual relationships. The Hosmer-Lemeshow (H-L) goodness-of-fit statistic shows that a logistic regression model is well fitting the observed data at an acceptable level when the resultant χ^2 -value is greater than 0.05; further indicating that the model prediction does not significantly differ from the observed frequencies. In this study, the H-L table obtained a χ^2 value of 2.273, with 2 degrees of freedom and a p-value of 0.361, which is not significant at 0.05 error margin. This result confirms that the first model was a good fit. The results further showed that model 2 explained up to 18.1% of variance in faithfulness to an uninfected partner; model 3 accounted for up to 29.5% of variance in condom use consistency; while model 4 explained up to 13.4% of variance in HIV testing. In addition, the H-L tables indicated that models 2, 3 and 4 had a good fit, suggesting the models did not differ significantly from the observed behaviour change practices among project beneficiaries.

V.

7 Conclusions

The study was initiated to assess the impact of peer education on behaviour change in public secondary schools youths in Rachuonyo District, Kenya. The specific aim was to determine the variation between peer education club members (beneficiaries) and nonmembers (non-beneficiaries) in terms of behaviour change indicators, including abstinence, faithfulness to a partner, condom use and HIV testing. The results showed that beneficiaries had relatively higher odds of practicing condom use, abstinence, faithfulness to one partner, and voluntary HIV testing as non-beneficiaries.

The H-L goodness-of-fit statistic showed that all the models generated were well fitting the observed data; thus, indicating that the model predictions did not vary significantly from the observed behaviour change practices among project beneficiaries. Consequently, the peer education project had contributed significantly to behaviour change among youth in public secondary schools, which is in line with the findings reported by previous studies such as Kirby et al. (1997), Morisky et al. (2006) and Katzenstein et al. (1998), among others. What the project and school administration should prioritize is how to sustain the gains, and improve the projects performance. Without appropriate measures, such gains may be lost easily because behaviour change has a lot to do with change in the mind-set, something that may not be achieved through a project of two years.

In view of this, the study recommends the need for peer education to be integrated with school extracurricular activities. This will require the Ministry of Education and Ministry of Health to spearhead the formulation of appropriate policy guidelines and curricula for entrenching peer education in Kenyan schools. Besides, the Ministry of Education should encourage professional development of teachers in peer education for health. The Ministry should extend peer education sensitization to the community level to enable parents and caregivers to play their parental roles in guiding in-school youth through the period of adolescence.

A key limitation of the study is the risk of social contamination between beneficiaries and nonbeneficiaries. Although the analysis considered the effect of background profile variables, the results remain liable to confounding from social interaction between members of the two groups, given that beneficiaries and non-beneficiaries were sampled from same schools.

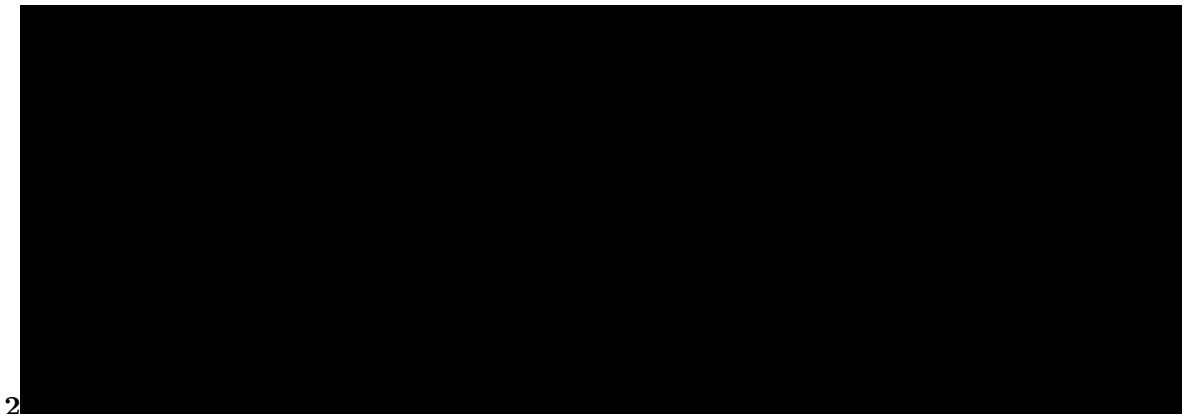


1

Figure 1: Figure 1 :



Figure 2:



2

Figure 3: Figure 2 :

1

Background Attributes	Members	Frequency	Percent	Frequency	Percent	Frequency	Percent	Non-Mem
Gender								
Male	126	48.5	116	54.7	242	51.3		
Female	134	51.5	96	45.3	230	48.7		
Total	260	100.0	212	100.0	472	100.0		
Age								
<17 years	117	45.0	89	42.0	206	43.6		
18-19 years	128	49.2	107	50.5	235	49.8		
>19 years	15	5.8	16	7.5	31	6.6		
Total	260	100.0	212	100.0	472	100.0		
Form								
Form three	142	54.6	116	54.7	258	54.7		
Form four	118	45.4	96	45.3	214	45.3		
Total	260	100.0	212	100.0	472	100.0		
Religion								
Catholic	49	18.8	49	23.1	98	20.8		
Protestant	96	36.9	81	38.2	177	37.5		
Muslim	30	11.5	15	7.1	45	9.5		
Seventh Day Adventist	67	25.8	48	22.6	115	24.4		
Others	18	6.9	19	9.0	37	7.8		
Total	260	100.0	212	100.0	472	100.0		
Orphanhood								
Both parents alive	110	42.3	72	34.0	182	38.6		
Either parent alive	77	29.6	65	30.7	142	30.1		
No parent alive	73	28.1	75	35.4	148	31.4		
Total	260	100.0	212	100.0	472	100.0		
Schooling consistency (past 12 months)								
Consistent	157	60.4	136	64.2	293	62.1		
Inconsistent	103	39.6	76	35.8	179	37.9		
Total	260	100.0	212	100.0	472	100.0		

Figure 4: Table 1 :

2

Model	Behaviour change in- di- ca- tors	Beneficiary status	?			SE	Wald value	Exp(?)	95% CI	
									Lower	Upper
1	Abstinence	Beneficiaries	0.946	0.189	25.053	0.000***		2.575	1.778	3.7
		Non-beneficiaries (RC)	1.000	1.000	1.000		1.000	1.000	1.000	1.0
		Constant	0.344	0.111	9.604		0.025**	1.411	1.135	1.7
2	Faithfulness to an uninfected partner	Beneficiaries	1.197	0.272	19.366	0.000***		3.310	1.942	5.6
		Non-beneficiaries (RC)	1.000	1.000	1.000		1.000	1.000	1.000	1.0
		Constant	0.544	0.210	6.711		0.051*	1.723	1.142	2.6
3	Condom use	Beneficiaries	0.969	0.186	27.141	0.000***		2.635	1.830	3.7
		Non-beneficiaries (RC)	1.000	1.000	1.000		1.000	1.000	1.000	1.0
		Constant	0.427	0.115	13.787	0.013**		1.533	1.223	1.9
4	HIV Testing	Beneficiaries	0.764	0.181	17.817	0.002***		2.147	1.506	3.0
		Non-beneficiaries (RC)	1.000	1.000	1.000		1.000	1.000	1.000	1.0
		Constant	0.566	0.210	7.264		0.034**	1.761	1.167	2.6

Note: *, **, *** show significance at 0.1, 0.05 and 0.01 error margins, respectively

Figure 5: Table 2 :

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