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Original Research Article

Effects of behavioural change communication on HIV and AIDS related high risk behaviour among fishermen in Homabay and Siaya Counties, Kenya

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ABSTRACT

Background: Risky sexual behaviors such as sexual concurrency, sexual networks (fish for sex exchange) and unprotected sex, have been reported as the main cause of sexually transmitted diseases **(**STIs) /HIV infections among fisher folks. Behavioral change mechanisms as condom use and abstinence are some of interventions used in prevention HIV/AIDS spread in Kenya. Risky sexual behaviors increase risk of contracting STIs including HIV/AIDS
Methods: This was a cross-sectional descriptive study involving 246 randomly selected fisher folks in Mbita- and Usenge along Lake Victoria. The survey used questionnaires to collect data among respondents. Using a sample frame in the beach management unit offices, fisherfolks were identified and invited to participate. Consent was obtained from participants
Results: The mean age of respondents was 31 years old. The 72% of the participants were directly involved in fishing. Participants who had extra marital relationship though married were 56.1% in Mbita and 47% in Usenge. Respondents who took alcohol with friends were 94.1% in Mbita and 96.2% in Usenge. Respondents who indicated that they had unprotected sex under influence of alcohol were 48.3% in Mbita and 77.1% in Usenge. Those who were sexually taken advantage of while under the influence of alcohol were 23.8% in Mbita and 38.3% in Usenge while those had sexually taken advantage of under the influence of alcohol were 18.3% in Mbita and 37.8% in Usenge.
Conclusions: Targeted behaviour change communication (BCC) strategies designed specifically for fisherfolks is needed to curb high incidences of risky sexual behaviours noted among the fishermen.

Keywords: HIV/AIDS, Fisherfolks, Risky behaviours, Alcohol consumption and HIV/AIDs

INTRODUCTION

Despite intervention's that have been put in place, the rate at which HIV is spreading in Africa is still high. The global presence of HIV possesses a threat to public health and affects the level of productivity of the affected people. AIDS, caused by the HIV, has claimed over 20 million lives since its discovery in 1984.[1] Awareness of STIs including HIV is reported to be high, but there is still a lack of understanding of the preventive measures. For instance, most people do not understand other modes of HIV transmission other than sex.[2] The major setback to HIV prevention is the fact that there is no cure, making BCC the most effective Mbita. BCC in public health entails ways of passing across health information to individuals, households or communities through media in such a way that it leads to behaviour change.[3] BCC can be delivered through face-to-face forums, electronic mass

media and print mass media.[3] Despite the increasing literature on the high prevalence of sexually transmitted infections in fisher folks, there is lack of policies to deal with STIs and although Mbitas in high-risk area are present, their effectiveness has not been tested.[4,5] STIs including gonorrhea (*Neisseria gonorrhoeae*), trichomoniasis (*Trichomonas vaginalis*), chlamydia (*Chlamydiatrachomatis*), syphilis (*Treponema pallidum*), and HIV are a common occurrence in fisher folks.[6] The fishermen are at risk of STI/ HIV infections because they are usually involved in risky sexual behavior. Some of the reported risk factors include fish for sex exchange, inconsistent condom use, having many sexual partners, alcohol consumption and low economic status.[7,8] The prevalence of HIV in Nyanza region in Kenya is 27% among adults.[9,10] A study done by Kwena among fishermen along Lake Victoria in Kenya reported that 25% were HIV Positive, 10% had syphilis.[11] HIV/AIDS in fishing communities has negative effect on the health of the fishing folks and the fishing communities in general.[12]

To reduce the prevalence of these STI's including HIV/AIDS in Kenya, especially among the fisher folks, introduction and assessment of the effects of BCC is necessary. In this digital era, digital platforms such as the mobile phone, video games, social media, sports and blogs can be used for BCC but access to internet is a problem in low-income settings. Studies have been carried out to try and understand the role played by the behavior change theories in bringing a behavior change.[13,14] A review by Poorman and others it has been reported that the use of text messaging was effective in bringing behavioral change as it was based on the existing theories.[11,15] Behavior change is affected by factors such as culture, environment, attitudes and personal values of the targeted group.[16] Households might learn from their neighbours and peers and learning from others happens faster than learning by oneself. Education and access to information as well as economic balance of the household often promote behavior change. However, increasing awareness and knowledge is not enough to bring about behavior change, there is need to look at socio-cultural factors that affects behaviour. Therefore, the purpose of this study was to determine the level of awareness on risky sexual behavior among the fisher folks in Mbita-Homabay County and Usenge-Siaya County; determine the prevalence of alcohol and drug abuse and high-risk behavior among the fisher folks; assess the role of circumcision in high-risk behavior among the fisher folks in Mbita Homabay County and Usenge, Siaya County; assess the high-risk behaviors among the fish.

General objective

The general objective of this study was to assess the effects of BCC on the high-risk sexual behavior among fisher folks in Homabay County, Mbita sub-county and Usenge and Siaya County, Kenya.

Specific objectives

Specific objective were to assess the awareness level on risky sexual behavior among the fisher folks in Mbita, Homabay County and Usenge, Siaya County, to determine prevalence of alcohol and drug abuse and high-risk behavior among the fisherfolks, to determine the role of circumcision in high-risk behavior among the fisher folks and to identify high risk behaviors among the fisher folks in Mbita, Homa Bay county and Usenge, Siaya County.

METHODS

Settings, population and study design

This cross-sectional quantitative survey was conducted between March and May 2019 among fisher folks aged 18 years and above. The study was carried out at Mbita-point within the Homa bay County and Usenge-beach in Siaya County, both along Lake Victoria. These areas are composed mainly of the Luo/ Suba/ Banyalla ethic group. HIV is among the most prevalent disease in the regions.[17] Population lives on subsistence farming, small-scale businesses and fishing. Usenge beach is in Bondo Siaya county 2nd to Homabay in terms of no. of fishermen.

Inclusion criteria

Participants were included in the study if they were fisherfolks who had resided and worked in the study site on fishing related activities for the last six months and were eighteen years old or above.

Exclusion criteria

Participants were excluded if they had not been on industry for the last six months or had not resided on site for last 6 months and were below eighteen years of age.

Sample size

A sample size of 246 was derived using sample size formula for a single population based on Fishers et al formula.[18] The assumptions made were using a 95% confidence interval, 5% margin of error and 20.0% expected proportion of fisher-folks with awareness of risky behaviours towards HIV/AIDS adjusted with 10% for incomplete of spoilt questionnaires. The sample size was distributed equally between Mbita and Usenge such that each of the areas got a sample size of 123. Using stratified random sampling technique, participants (including both women and men among the fisher-folks) were selected to participate based on numbers given by beach management unit (BMU) in each of landing sites.

Measurement

Data was collected using a structured questionnaire with closed ended pre-coded questions and administered

verbally to participants. The questionnaire was divided into four parts; socio- demographic, social networks, knowledge levels of risky sexual behaviours and attitudes of fisherfolks towards risky sexual behaviour. To determine awareness of risky sexual behaviour, the researcher developed 21 items, and to asses knowledge levels 65 items were used and finally to determine attitudes of fisherfolks 6 items were used.

Data analysis

The raw data in the questionnaires were checked for consistency, accuracy, and completeness before data entry and data was analyzed using Stata software version 14. STATA suite of survey commands were used to obtain estimates with 95% confidence intervals that took into account the survey design. The data was analyzed using percentages, frequencies, means, mode and medians. The data was presented in table, frequency tables, pie charts and graphs.

Ethics issues

Approval for this study was obtained from Kenyatta university review committee and national commission for science, technology and innovation (NACOSTI). Informed consent was sought from the study participants before being allowed to take part in the study. The identity of the study participants remained anonymous and data collected from them were kept confidential in a password secured computer.

RESULTS

Response rate of the participants

A total of 264 questionnaires were distributed to the fisherfolks in the two beach landing sites (Mbita and Usenge). All of the distributed questionnaires were returned for a response rate of 100%.

Socio-demographic characteristics of respondents

In the two beach-landing sites, the mean (SD) age of the Mbita site was 30.2 (10.0) years compared to 32.2 (10.1) in the Usenge site. In terms of sex, the Mbita site had 51.5% males and 48.5% females while the Usenge comprised of 45.5% males and 54.5% females.

In terms of education, most of the participants in the Mbita site had primary education (39.4%), 26.5% had no education, 22.7% had secondary education while 11.4% had tertiary education. In the Usenge site most respondents had primary education (37.1%), 34.9% had no education, 19.7% had secondary education while 8.3% had tertiary education. Those who were doing fishing business were 51.5% in the Mbita site and 57.6% in the Usenge site. Table 1 provides the summary of socio-demographic characteristics (Table 1).

Table 1: Socio-demographic characteristics of the study participants.

Characteristics	Study site	
	Mbita	Usenge
Age (years)		
Mean	30.2	32.2
Std. Dev	10	10.1
Min	17	17
Max	65	74
Sex		
Male	68 (51.5)	60 (45.5)
Female	64 (48.5)	72 (54.5)
Level of education		
None	35 (26.5)	46 (34.9)
Primary	52 (39.4)	49 (37.1)
Secondary	30 (22.7)	26 (19.7)
Tertiary	15 (11.4)	11 (8.3)
Religion		
Christian	106 (80.3)	114 (86.4)
Muslim	8 (6.1)	9 (6.8)
No religion	18 (13.6)	9 (6.8)
Fishing business		
Yes	68 (51.5)	76 (57.6)
No	64 (48.5)	56 (42.4)
Other occupation		
Boatman	8 (11.8)	6 (7.9)
Fish trader/ agent	13 (19.1)	12 (15.8)
Farmer	7 (10.3)	9 (11.8)
Fisherman	8 (11.8)	12 (15.8)
Fishmonger	9 (13.2)	5 (6.6)
Trader	9 (13.2)	6 (7.9)
Smoking	3 (4.4)	7 (9.2)
Housewife	3 (4.4)	4 (5.3)
Other occupations	8 (11.8)	15 (19.7)

Table 2: Knowledge on condom use.

Characteristics	Study site	
	Mbita	Usenge
Knowledge on risk associated with non-condom use		
Yes	108 (81.8)	126 (95.5)
No	24 (18.2)	6 (4.6)
Condoms can help prevent diseases like STIs		
Yes	92 (69.7)	119 (90.2)
No	40 (30.3)	13 (9.9)
Stopping using condoms, one is at risk of getting infected with HIV/AIDS		
Yes	96 (72.7)	104 (78.8)
No	36 (27.3)	28 (21.2)
Sexual intercourse without condoms is dangerous		
Yes	99 (75.0)	105 (79.6)
No	33(25.0)	27 (20.5)

Effect of alcohol on sexual behaviour is given in Table 3. Participants who always affected when drinking before sex 5.1% in Mbita, 14.9% in Usenge. Those who often affected 8.1% in Usenge while those affected sometimes 19.2% in Mbita and 29.8% in Usenge (Table 3).

Table 3: Alcohol and sexual behavior.

Variables	Study site	
	Mbita	Usenge
Strongly/somewhat affected when drinking before sex		
Always	5 (5.1)	14 (14.9)
Often	8 (8.1)	12 (12.8)
Sometimes	19 (19.2)	28 (29.8)
Rarely	15 (15.2)	11 (11.7)
Never	52 (52.5)	29 (30.9)
Use of alcohol makes it easier to have sex		
Always	4 (3.6)	13 (12.4)
Often	6 (5.4)	9 (8.6)
Sometimes	10 (8.9)	25 (23.8)
Rarely	16 (14.3)	13 (12.4)
Never	76 (67.9)	45 (42.9)

Results show the number of sexual that the fishermen had at a go and how often they could change their sexual partners. Participants who indicated that had no sexual partners were 32.6% in Homabay and 38.6% in Siaya while those that indicated that they had one sexual partner were 31.1% in Homabay and 25.8% in Siaya. Participants who had extra marital relationship though married were 56.1% in Homabay and 47% in Siaya. Respondents that changed their sexual partners 75.8% and 82% kept changing sexual partners in Homabay and 68.9% changed their partners with 74.7% keeping on changing in Siaya.

The number of partners engaged in the last 6 months prior to the survey; one; 31.1%, two; 32.6%, three; 19.7%, four 16.7% in Homabay while in Siayal site one; 37.9%, two; 26.5%, three; 15.9% and four; 19.7% (Table 4).

Table 4: No. of sexual partners that respondent had.

Characteristics	Study site	
	Mbita	Usenge
Number of sexual partners		
None	43 (32.6)	51 (38.6)
One	41 (31.1)	34 (25.8)
Two	25 (18.9)	22 (16.7)
Three on more	23 (17.4)	25 (18.9)
Extra marital relationships in last 6 months, though married		
Yes	74 (56.1)	62 (47.0)
No	58 (43.9)	70 (53.0)
Changed sexual partner?		
Yes	100 (75.8)	91 (68.9)
No	32 (24.2)	41 (31.1)
Keep changing sexual partners		
Yes	82 (82.0)	68 (74.7)
No	18 (18.0)	23 (25.3)
Number of sexual partners engaged with in sexual intercourse in the last 6 months		
One	41 (31.1)	50 (37.9)
Two	43 (32.6)	35 (26.5)
Three	26 (19.7)	21 (15.9)
Four	22 (16.7)	26 (19.7)

Knowledge and contraception use among fisher folks is described in Table 5. Those who indicated that they were using contraceptives to delay or avoid pregnancy we 72.7 and 73.5% in Homabay and Siaya site respectively. Most commonly used contraception methods male condoms at 38.5% and 35.1%, followed by implants at 18.8% and 12.4% in Homabay and Siaya respectively (Table 5).

Table 5: Awareness and practice of contraceptive among Fisher folks.

Characteristics	Study Usenge	
	Homabay	Siaya
Currently using contraceptives to delay or avoid pregnancy		
Yes	96 (72.7)	97 (73.5)
No	36 (27.3)	35 (26.5)
Method of contraceptive being used		
Male condom	37 (38.5)	34 (35.1)
Pills	8 (8.3)	13 (13.4)
IUD	3 (3.1)	4 (4.1)
Female condom	0	2 (2.1)
Withdrawal	3 (3.1)	3 (3.1)
Abstinence	14 (14.6)	9 (9.3)
Implants	18 (18.8)	12 (12.4)
Others	13 (13.5)	20 (20.6)

Methods on STI prevention are summarized in Figure 2. Condom use has been indicated as one of the most commonly used method of STI prevention by 57.6% participants in Mbita site and 47% participants in Usenge site. Abstinence was also indicated by 9.9% participants in Mbita site and 18.2% in Usenge. Careful partner selection was also indicated as a method of STI prevention by 10.6% participants from Mbita and 15.9% in Usenge. However, 15.9% of the participants from Mbita and 10.6% in Usenge did not know any method of STI prevention (Figure 1).

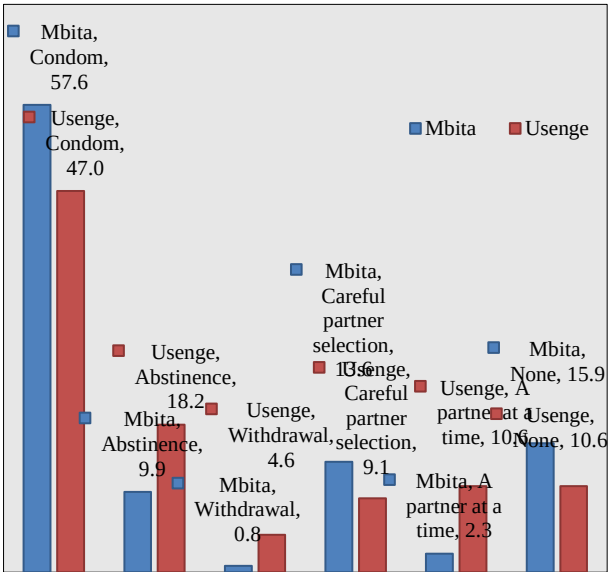

Figure 1: Respondent's knowledge on HIV.

The participants who reported that it was difficult to get a condom every time they needed them 15.2% in Mbita and 18.9% in Usenge. Of respondents, those who indicated it was somewhat difficult to get a condom every time they needed it were 56.1% in Mbita and 40.9% in Usenge. Results indicate that those who felt it was difficult to remember to use condom 18.2% in Mbita and 27.3% in Usenge. Of these respondents those who indicated that it was somewhat difficult to remember on how to use condom 45.5% in Mbita and 54.6% in Usenge (Figure 2).

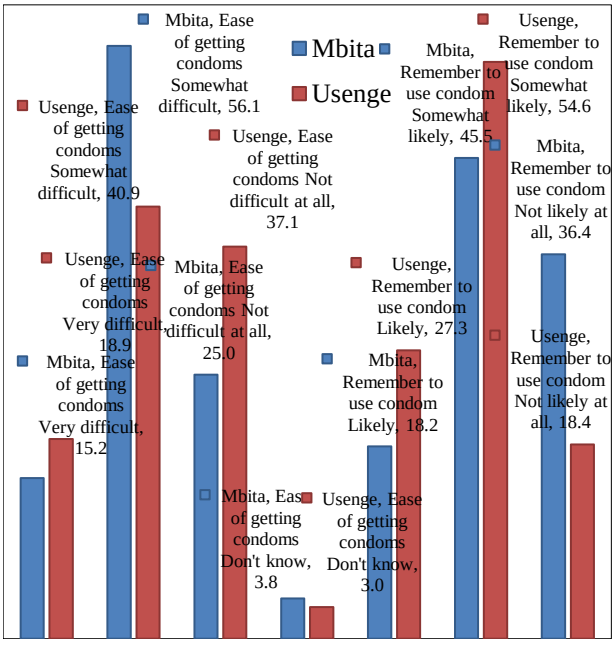

Figure 2: Respondent's condom uses practices.

Respondents who indicated that they take alcohol with friends were 94.1% in Mbita and 96.2% in Usenge. Those who were accompanied by male were 10.6% in Mbita and 16.1% in Usenge, those accompanied by female 3.5% in Mbita and 7.4% in Usenge, those accompanied by both were 85.9% in Mbita and 76.5% in Usenge (Figure 3).

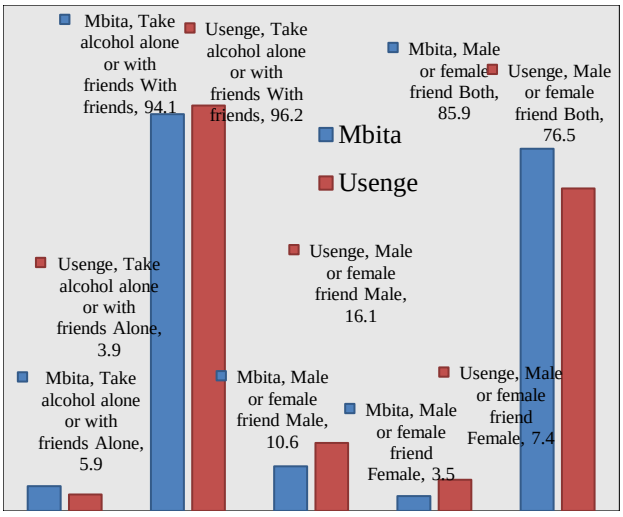

Figure 3: Sexual partners and alcohol consumption.

Respondents who indicated that they had unprotected sex under influence of alcohol were 48.3% in Mbita and 67.1% in Usenge. Those who were sexually taken advantage of while under the influence of alcohol were 23.8% in Mbita and 38.3% in Usenge while those had sexually taken advantage of someone while under the influence of alcohol were 18.3% in Mbita and 37.8% in Usenge (Figure 4).

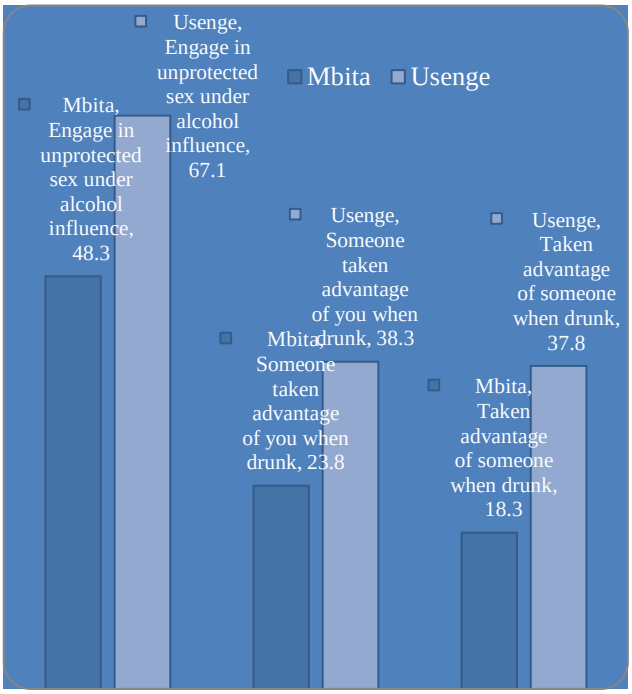

Figure 4: Alcohol and condom use.

DISCUSSION

In Homabay county, participants that had heard of HIV were 98.5% while in the Siaya site they were 97%. Those who had knowledge on where to test for HIV were 94.7% in Homabay and 98.5% in Siaya site. Among those who had tested for HIV were 86.4% from Homabay and 92.42% Siaya.

Findings in this study show that those who were always affected when drinking before sex were 5.1% in Homabay and 14.9% in Siaya. Those who often affected were 8.1% in Siaya while those were affected sometimes were 19.2% in Homabay and 29.8% in Siaya. This is in line with a study done by Kwena, which reported that 25% of men and 10.3% of women had consumed alcohol before engaging in sex. However, 73.9% of men and 25% of women reported to be in Usenge of themselves when drunk. A quarter of the men and 10.3% of the women reported that they had taken alcohol before their most recent non-spousal sexual encounter.

Another research conducted among teenagers in Finland, reported that alcohol consumption increased the chances of engaging in unprotected sex.[19] This is because alcohol impairs someone's judgment that makes one to have

many sexual partners and little or no use of condom. The fish traders and mongers also carry the same susceptibility as the fisher men. This concurs with the findings of this study which showed that respondents who had unprotected sex under influence of alcohol were 48.3% in Homabay and 77.1% in Siaya. Those who were sexually taken advantage of while under the influence of alcohol were 23.8% in Homabay and 38.3% in Siaya while those had sexually taken advantage of someone while under the influence of alcohol were 18.3% in Homabay and 37.8% in Siaya. This high prevalence has been reported to be due to involvement in risky sexual behaviors which are caused by the consumption of alcohol. A research study carried out in the coast of Puducherry, India among the fishing community reported a prevalence of alcohol consumption of 79% and most of them started taking alcohol when they are young.[20] This agrees with findings from the current study which shows that the respondents who took alcohol were 64.4% in Homabay and 59.1% in Siaya county.

Results from this study indicates that those who had received money, fish or farms in exchange sex were 37.1% and 28.8% and those that had given gifts, money, fish or farms for sex were 47.7% and 39.4% for Homabay and Siaya respectively. Those that had received gifts, money, gifts and farms for sex within the last 6 months were 34.9% and 28% for Homabay and Siaya. This is supported by literature which shows that fish for sex is a form of sexual network that is common among the fisher folks. This is an agreement between fishermen and female fishmongers in which they engage in sexual activities in exchange for constant supply of fish by the fishermen. This makes them to interact with women who are directly or indirectly involved in fishing and selling fish.[4,12,21] These interactions with the opposite sex leads to the formation of sexual networks such as the fish for sex relationships (Jaboya) which accelerates the transmission of HIV.

Literature indicates that factors such as lack of male circumcision and cultural practices such as wife inheritance have been associated with the high prevalence of HIV and STIs in Counties along lake Victoria.[22]This agrees with the findings from this study where 18.9% in Homabay and 15.9% in Siaya of the respondents indicated that there were community laws in place that would make it more likely for them to change their partners frequently, while 20.5% and 16.7% others indicated that there were cultural rules or taboos for them to change their sexual partners in Homabay and Usenge Siaya respectively.

Condom use, proper condom use, frequency of condom use and transactional sex use were the critical variables here. Condom as a form of contraceptive was assessed to see whether it is used among the fishermen regularly, properly and frequently. Knowledge and contraception use among the fisher folks is described in Table 7 above. Those who indicated that they were using contraceptives to delay or avoid pregnancy we 72.7% and 73.5% in Homabay and Siaya respectively. The most commonly used contraception methods were male condoms at 38.5% and 35.1%, followed by implants at 18.8% and 12.4% in Homabay and Siaya respectively. Those that used condom in their last sexual encounters were 42.4% and 45.5%, those that used condom more than three times were 71.2% and 57.6% in Homabay and Siaya respectively. The reasons were birth Usenge with 11.4% and 20.5%, disease prevention 19.7% and 31.8% in Homabay and Siaya respectively.

Findings from this study indicates high prevalence of unprotected sex among fishermen, because from the respondents those that used condom in their last sexual encounters were 42.4% and 45.5%, those that used condom more than three times were 71.2% and 57.6% in Homabay and Siaya respectively. This is in line with literature which shows that risky sexual behaviors such as unprotected sex, have been reported as the main cause of STI/ HIV infections among the fisher folks.[8]

Literature shows that most of the female fish traders who engage in ‘fish for sex’ are of low socio economical position as most of them are divorced, widowed, or single. Most of the time, the sex doesn’t involve the use of a condom, which makes fish traders and the fisherfolk at risk of contracting STI’s including HIV.[15]

Limitations

Underlying issues like alcohol consumption, and condom use which were measured by self-reporting can compromise validity, and therefore an alternative method such as bogus pipeline method could be of help. (On this method, the person whose attitude or emotion is being measured is told that they are being measured by a machine or polygraph detector, resulting into more truthful answers,

CONCLUSION

The study has highlighted alarming number of proportions of the fishermen involved in unprotected multiple sexual partners, sex under the influence of alcohol, poor and non-condom use which are a risky to contracting HIV and other STIs.

There has been a significant decline in new infections and AIDS-related deaths. This is attributable to both biomedical and socio-behavioral interventions. Nonetheless, a lot more efforts are required to achieve sustainable develop goal number 6 of halting and start reversing HIV infections. Some of these efforts may need to focus on understanding the correlates of high-risk behaviour and design targeting the fisherfolks, in combating HIV risk factors themselves.

This study therefore recommends interventional studies aiming to determine the impact of BCC strategies

designed specifically targeting the fisherfolks in this region.

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