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Assessing the Implementation of HIV/AIDS Programs Amongst Youth Fisherfolk: The Case of Mbita, Kenya

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ASSESSING THE IMPLEMENTATION OF HIV/AIDS PROGRAMS AMONGST YOUTH FISHERFOLK: THE CASE OF MBITA, KENYA

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*SIT Kenya Study Abroad: Urbanization, Health and Human Rights
Spring 2016*

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1.0 ABSTRACT

Homa Bay, Nyanza Province has the highest HIV/AIDS prevalence rate in Kenya (25.7%). Risky sexual behaviors are especially prevalent in fishing communities within this area. This study was conducted in Mbita, a sub-county of Homa Bay. The main objective was to determine which factors influence the implementation of HIV/AIDS programs amongst youth fisherfolk (ages 18-24) within beaches around Mbita. Data was collected through survey administration, key-informant interviews, and in depth interviews. The results highlight some interesting correlations, as well as a disturbing picture of the inequities females face within these fishing communities. Furthermore, a novel microclinic peer education HIV/AIDS program was created after discussions with local community members and NGO staff members.

2.0 INTRODUCTION

2.1 HIV/AIDS: The Global Epidemic and Prevalence in Kenya

At the end of 2014, there were approximately 36.9 million people living with the Human Immunodeficiency Virus (HIV) and more than 2 million new documented cases.¹ HIV is a disease that attacks the body's immune system, making individuals more susceptible to infections or infection-related cancers. Over time, HIV weakens the body's immune system to a point where the body cannot fight off any infections or diseases. This final stage of the HIV infection is called Acquired Immunodeficiency Syndrome (AIDS). Globally, an estimated 34 million people have died from AIDS-related causes so far and around 1.2 million died in 2014 alone.¹ Although there have been significant strides in the prevention and treatment of HIV/AIDS, the physical, social and psychological impact that the infection has on individuals is still significant.

Sub-Saharan Africa is the most affected region in the world, with approximately 25.8 million people living with HIV. In 2014, Sub-Saharan Africa accounted for almost 70 percent of the global total of new HIV infections.¹ Kenya has one of the largest HIV epidemics in the world with approximately 1.4 million people living with HIV as of 2014. Furthermore, roughly 33,000 people died from AIDS-related illnesses.² Within Kenya, the most affected region is the Nyanza province, with a HIV prevalence of approximately 15%.³ Despite Kenya's high HIV/AIDS prevalence, the number of AIDS related deaths has dropped significantly over the past few years due to improvement in quality/availability of antiretroviral therapy (ARV). Furthermore, a lot has been done within Kenya to prevent new HIV infections. For example, HIV/AIDS education is now mandatory in all primary schools and many hospitals require individuals to be tested for HIV before they can be treated.

In Kenya, the increase in preventative measures and quality/availability of ARV administration had resulted in a drop of HIV prevalence from 10.5% in 1996 to 5.6% in 2013.³ It is important to note that ARVs are not a cure for HIV, and people living with HIV/AIDS (PLWHA) must take their medication regularly. However, with proper ARV treatment, PLWHA can have a life expectancy similar to people that are HIV-negative. Despite this fact, there are still many individuals living with HIV that are reluctant to access and adhere to lifesaving ARV. This could be due to stigma, lack of education or even economic reasons.⁴ HIV/AIDS stigma

also makes it more difficult for individuals to get tested, whether or not they are actually infected. This is extremely detrimental to the health and wellbeing of PLWHA, since early detection of HIV is essential to prevent the progression of the virus.

2.2 HIV/AIDS: Preventative Measures in Kenya

The Kenyan Government's Ministry of Education has tried to prevent HIV/AIDS by incorporating HIV/AIDS education in the school curriculum since 2003.³ However, the effectiveness of these curriculums is debatable. The 2014 Demographic and Health Survey found that only 54% of young women and 64% of young men aged 15-24 had comprehensive knowledge about HIV prevention.⁵ Furthermore, the Kenya AIDS Indicator Survey 2012 reported almost no difference in HIV prevalence between those who had completed primary education (6%) and those who had completed secondary education (5.8%).³ The ineffectiveness of school based curriculums may be contributed to many factors, such as the teachers lack of adequate HIV/AIDS knowledge, lack of adequate resources and minimal time allocated to teaching of HIV/AIDS education.⁶ The lack of success in traditional school setting has brought upon the implementation of other types of interventions within the Kenya context.

There are many HIV/AIDS education programs that have been certified by the Kenyan government, such as Families Matters, Healthy Choices, Shuga, G-PANGE, and Chill Club.³ Some of these are school-based while others are supplemental. Families Matters is a parent-focused behavioral intervention for guardians of pre-adolescents aged 9 to 12 years. Healthy Choices I is a program that targets in-school youth aged 10 to 14 years, while healthy Choices II targets youth aged 13 to 17 years in out of school settings. Healthy Choices I focuses more on delaying sexual debut, while Healthy Choices II focuses more on safe sexual practices. Shuga is a multi-media behavioral intervention that targets youth age 15 to 24 years. G-PANGE is a program that utilized a variety of outlets, such as music and sports, to promote healthy lifestyle choices. Chill Club aims to promote healthy sexual behaviors among children aged 10 to 14 with facilitators who are 18 to 24 years old with a college or university degree.³ Out of all of these programs, Chill Club had the highest level of participation at approximately 13.5%.

Peer education has been utilized in many different settings in an effort to increase awareness about and prevent the transmission of HIV/AIDS. In general, peer education is

defined as a “process whereby well-trained and motivated young people undertake informal or organized educational activities with their peers (those similar to themselves in age, background, or interests).”⁷ There are a large variety of peer education programs and activity. However, they usually share the same goal of developing knowledge, attitudes, beliefs, and skills needed to engage in healthy behaviors. In terms of HIV/AIDS based peer education, there have been a number of success stories in developing countries from sub-Saharan Africa and Asian to Latin America.⁸

One of these success stories, is the “Kicking out AIDS” peer education program that is sponsored by Mathare Youth Sports Association (MYSA), a NGO based in Nairobi. This particular program was found to effectively change the community norms and mobilize the youth.⁸ Furthermore, the “Pamoja” peer education program has been implemented in Homa Bay by the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF). The “Pamoja” project is still in its early stages, so there is not a lot of evidence-based research on the success of the program. However, early indications suggest that many individuals have been benefiting from participating in the program.⁹ A study was also conducted to observe the effectiveness of peer education) in in 8 Rachuonyo County secondary schools.¹⁰ The study found that the peer education project encouraged abstinence, faithfulness to a partner, condom use, and HIV testing. The success of these programs is not generalizable for all of Kenya, as there are benefits and challenges with any HIV/AIDS peer education program, but it does offer some hope that peer education can work in the Kenyan context.

In 2012, a pilot microclinic program was implemented in at Mfangano Island, Kenya, where HIV prevalence approaches 30%. Microclinics aim to promote social network engagement in HIV/AIDS care and treatment. A microclinic is essentially a therapy management group comprised of a small group of neighbors, relatives, and friends who are trained as a team to provide psychosocial and adherence support for HIV-infected members. Overall, the participants were very receptive to the pilot microclinic program and showed to have an increase in overall understanding of HIV/AIDS as a disease.¹¹ The success of the microclinic intervention programs in Mfangano Island is promising, but similar to the success of the peer education programs, it is not generalizable for all of Kenya.

2.3 HIV/AIDS: Prevalence in Homa Bay County, Nyanza Province

The Nyanza Province is located in the southwest region of Kenya and it borders the eastern edge of Lake Victoria. It is composed of six counties: Siaya, Kisumu, Homa Bay, Migori, Kisii, and Nyamira. The proximity of many of the Nyanza province counties, including Homa Bay, to Lake Victoria has resulted in a very strong economic dependence on fishing and the formation of unique fishing cultures. Among the six counties, Homa Bay county has the highest HIV/AIDS prevalence, with a rate of 25.7%, and a total population of 1,053,465. The HIV prevalence among women is higher (27.4%) than that of men (23.7%), indicating that women are more at risk for contracting HIV.³ Fishing is the main economic driver in many regions of Homa Bay county. Homa Bay county is further divided into 8 sub-counties: Mbita, Suba, Ndhiwa, Rangwe, Rachuonyo N., Rachuonyo S., Homa Bay and Kasipul Kabondo

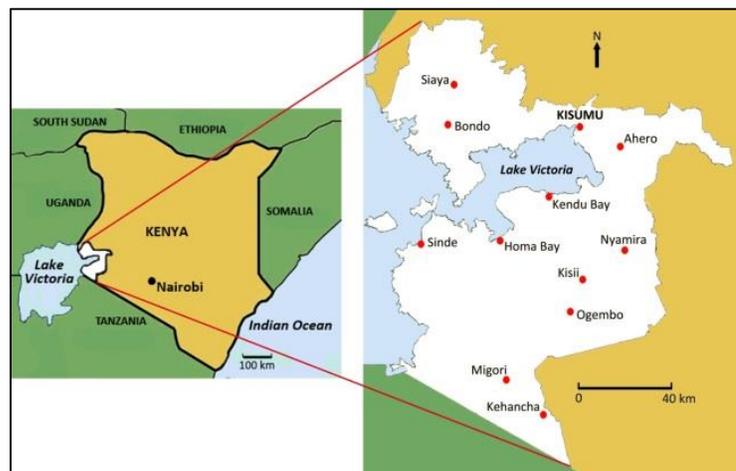


Figure 1. Map of Nyanza Province, Kenya

The fishing culture in the Nyanza Province has had a direct impact on the risk of HIV transmission through *jaboya* relationships (a form of “transactional sex”). In *jaboya* relationships, women fish traders (also known as fishwives, fish mongers, and *jakambi*) play an integral role in procuring, processing, transporting and selling fish. However, for women fish traders to gain preferential access to these fish they must exchange sex with fishermen.¹² Many times these women do not have any other options, and must participate in these *jaboya* relationships due to the lack of job options and financial compensation. Studies have recently indicated that these relationships are directly intertwined with ecological factors, such as declines in fish catches and the adverse effect it has on both women’s power to negotiate resource access

and their sexual relationships.¹³ This gendered economy makes it hard for women to find independent economic success without subjecting themselves to the plethora of risks associated with transactional and concurrent sexual relationships.

2.4 Problem Statement

The rate of HIV/AIDS in the Nyanza province (15%), more specifically in Homa Bay County (25.7%), is alarming.³ Furthermore, the geographical location and economic dependence on fishing, as well as the influx of young men and women into these fishing communities, makes it difficult to stop HIV transmission via risky sexual behaviors. A recent study has indicated that many of the youth in Nyanza are beginning to have sex at a very young age (at age 15 or younger), sometimes with multiple and concurrent partners.¹² What makes these sexual behaviors even riskier is the fact that only about a fifth of children ages 10 to 14 had comprehensive knowledge on HIV/AIDS prevention.³ Additionally, the stigma associated with HIV infected individuals is a large problem in many Kenyan communities. In many cases it causes HIV infected individuals to embark on their ARV journey by themselves, without the help or acknowledgement of friends and loved ones.

The fishing culture and jaboya relationships in the Nyanza province undoubtedly contributes to the high rate of HIV in the region. But the fact that such a large portion of the youth are engaging in sexual activities makes the problem even more complicated. The aforementioned fact has probably contributed to the youth accounting for approximately 35% of new HIV cases in the Nyanza province.³ This fact indicates that the risky sexual behaviors of individuals are not only confined to those in the fishing communities but throughout the youth in these communities as well. Furthermore, HIV/AIDS stigma has made it harder for individuals to get tested. This intense stigma also adversely affects HIV infected individuals' abilities to adhere to and sustain ARV medications.⁹ HIV/AIDS education programs are instrumental to the reduction of stigma as well as the prevention of HIV transmission. However, it was reported that only 30% of children, ages 10 to 14, have ever participated in a HIV/AIDS education program. Participation in HIV/AIDS education programs was significantly higher among children in urban areas than children in rural areas (45.0% vs 24.8%).³ Given the fact that many areas in Nyanza are still rural, the lack of youth participation in these HIV/AIDS programs is concerning.

Peer education has had a lot of success when it comes to HIV/AIDS education. This success has been seen in parts of Kenya as well (i.e. MYSA, EGPAF, etc). Furthermore, the success of the microclinic intervention in Mfangano Island is also very promising. The implementation of either of the aforementioned programs in fishing communities may be an effective way to prevent risky sexual behaviors and promote healthier living amongst the youth. However, a novel program combining both modes of intervention may have the potential to make an even more significant impact.

The study aims to address HIV/AIDS prevention by looking at perceived barriers to HIV/AIDS programs among youth fisherfolk (ages 18-24). Furthermore, the study intends to garner a better understanding of the background of these youth fisherfolk. For example, gauging their level of HIV/AIDS knowledge and determining their risky sexual behaviors and practices. It would also be interesting to determine the average age at which men and women begin working in the fishing communities, as there is a lack of literature on this matter. This information will help narrow down the causes of risky sexual behaviors, that are known to increase the risk of HIV transmission, and help understand the intended target population of HIV/AIDS programs. The study will also aim to assess how receptive individuals within the community are to a novel microclinic peer education program. Feedback from the community members, as well as different NGO directors, will help shape the program and determine whether or not such a program would actually be feasible.

2.5 Objectives

The main objective of this study will be to determine which factors influence the implementation of HIV/AIDS programs amongst youth fisherfolk (ages 18-24) within beaches around Mbita. The specific objectives are to:

- a. Determine the knowledge level that youth fisherfolk have on HIV/AIDS.
- b. Assess sexual practices that youth fisherfolk participate in.
- c. Identify perceived barriers of youth fisherfolk to attending HIV/AIDS programs.
- d. Explore the operational and programmatic issues that a HIV/AIDS microclinic peer-education program might face.

3.0 METHODOLOGY

3.1 Study Area and Target Population

The study was conducted in the Nyanza province, more specifically Mbita in Homa Bay County. The study focused on the youth fisherfolk, ages 18 to 24, in the local fishing communities. The beaches that agreed to participate in this study are Kisui, Uyoga, Lwanda Rombo, Koguna, Nyachebe, Litare, Kiumba, and Wagando beaches. Half of these beaches were located on the mainland of Mbita, while the other half were located on Rusinga Island. Furthermore, 5 program directors, supervisors and program managers from 4 NGOs agreed to participate in the study as well: MYSA, EGPAF, DEVLINK, and the Organic Health Response.

3.2 Study Design

A cross-sectional study design was carried out to observe which factors influence the implementation of HIV/AIDS programs among youth fisherfolk and to explore operational and programmatic issues that a microclinic peer-education program might face.

3.3 Data Collection: Methods and Instruments

Due to the nature of the study, randomization was not plausible and convenience sampling was used. All the data was collected through survey administration, in-depth interviews (IDI), and key informant interviews (KII) over the span of approximately 30 days. The surveys that were administered had specific questions about the socioeconomic, educational, occupational and sexual backgrounds of the youth fisherfolk (Appendix 7.2). Furthermore, the HIV-Knowledge Questionnaire-18 (HIV-KQ-18) was administered to gauge the participants' level of HIV knowledge (Appendix 7.3).¹⁵

There were 20 youth fisherfolk surveyed per beach (10 males and 10 females), for a total of 160 surveys. Furthermore, a total of 16 KIIs were conducted (1 male and 1 female per beach). These KIIs offered insight into some of the risky sexual practices that the youth fisherfolk engage in, as well as determine specific reasons why the individual participants have or have not attended HIV/AIDS programs (Appendix 7.4). Feedback on the proposed microclinic peer

education program was also obtained from the KIIs conducted with the youth fisherfolk and also from the IDIs conducted with NGO staff members (Appendix 7.4).

Two male research assistant and one female research assistant were hired for this study. These research assistants were capable of speaking English, Swahili, and Luo. They helped with the administration of the surveys, while also acting as translators during KIIs. Before administering the surveys, the research team (the principal investigator, one male and one female research assistant) went to the beach managerial unit (BMU), and got their approval before commencing. Afterwards, the 20 surveys were distributed and 2 potential KII participants were identified from these surveys. After the work in the field was done, the research team reported to the BMU once again before leaving. A summary of the research will be provided to the BMU board members, after the paper is completed.

3.4 Ethical Considerations

Before the study began, the research assistants were informed on issues of ethics and confidentiality. They were trained to ensure that the participants were fully aware of their role in the study before the survey was administered. They would do this by asking open ended questions about the study. After this process was completed, the participants signed a consent form (Appendix 7.1). All participants were given an ID, which was how they were identified for data analysis and this paper. The data was also stored in an encrypted folder within the principal investigator's personal hard drive.

3.5 Data Analysis

Microsoft Excel was used to perform basic statistical analysis, and R-studio was used for more in-depth statistical analysis; chi-square, linear regression and logistic regression analyses. This was done to determine statistically significant correlations between an independent and dependent variable. The dependent variable that was used was the participant's marital status and knowledge level, while some of the independent variables that were used include sex, highest level of education, school status, condom use, participation in transactional sex, and participation in concurrent relationships.

4.0 RESULTS AND DISCUSSION

4.1 Demographic Data of Participants

Out of the 160 participants, the average and median age was 21. The most represented age was 18, with 34 participants, while the least represented age was 20, with 12 participants (Fig. 2). The majority of the participants (88.75%) were Luo. The other ethnicities that were represented included Suba (9.38%) and other (1.88%).

Most of the participants' highest level of education was either primary school (46.25%) or secondary school (45.63%). Only 8.13% of the participants attended post-secondary schools (i.e. college or university). There also appears to be a difference in highest level of education

depending on sex. A majority (53.75%) of the male participants' highest level of education was secondary school, whereas a majority (58.75%) of the female participants' highest level of education was primary school (Fig. 3a). Only 25% of the participants are currently attending school. There also appears to be a difference in current school status based on sex as well. Out of all the male participants, 36% are attending school, compared to only 13.75% of the female participants (Fig. 3b).

Age Distribution

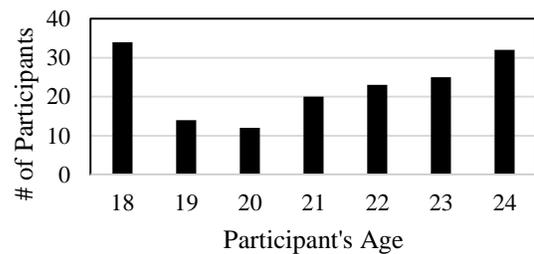
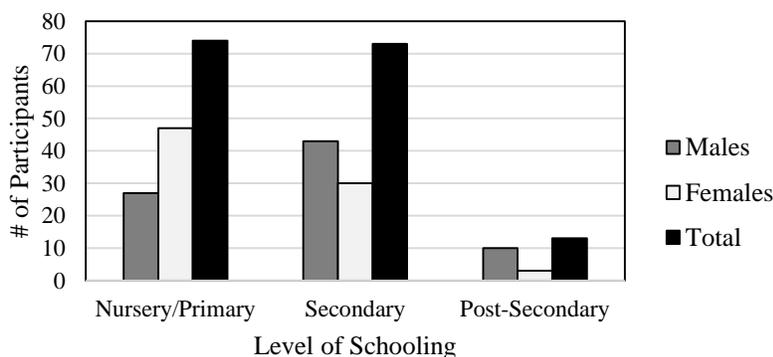


Figure 2. Age Distribution of Participants. This graph shows the distribution of participants by their age: 18 (34), 19 (14), 20 (12), 21 (20), 22 (23), 23(25), 24(32).

Highest Level of Education



School Status

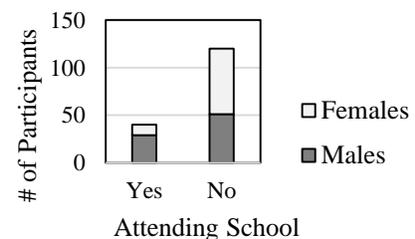


Figure 3. The highest level of education and current school status of all the participants. (a) This graph indicates the participants' highest level of education: Nursery/Primary School (27 Males/47 Females/74 Total), Secondary School (43 M, 30F,73T), and Post-Secondary (10M,3F,13T). (b) This graph indicates the participants' current school status: Currently Attending (29M/11F/40T) and Not Currently Attending 51M/69F/120T)

These results indicate that the youth within these fishing communities, especially females, are unable to get the proper education they need. Based on previous research, there is a 3.0% secondary school dropout rate for males and a 7.0% secondary school dropout rate for females.¹⁶ The fact that so many of the youth, especially females, are dropping out of school is concerning. Finishing secondary schooling and attending post-secondary schooling is not only about academics but also about opening up job opportunities. It is probably due to this lack of schooling that many of the youth are returning/staying to work within the fishing community. This is generally not what the youth want, as the beaches are not seen as the best places to live or work, but they are forced to do what is necessary to survive.

The age that the participants began working as fisherfolk ranged from as young as 8 to as old as 24. The median age was 18. On average, the participants worked in the fishing community for about 3 years and 2 months. Out of the 145 participants that were asked, 43.44% worked as fishermen, 51.03% worked as fish traders, 2.76% were boat owners, and 2.07% had other roles (Fig. 4). Furthermore, 100% of the fishermen were males, while 92% of the fish traders were females. Out of all the males, 86.30% were fishermen, 8.22% were fish traders, 4.11% were boat owners, and 1.37% had other roles. On the other hand, 95.83% of the females were fish traders, 1.37% were boat owners, and 2.78% had other roles (Fig. 4). These results are fairly consistent with those found in previous studies, and indicate that females have limited job opportunities compared to males.^{12,13} When women’s education and job opportunities are limited, this only reinforces the gendered economy that is already in place, further endangering their rights.

Role in Fishing Community

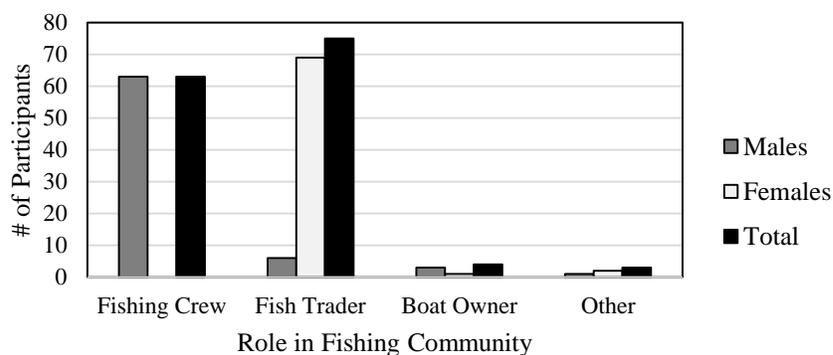


Figure 4. Role in fishing community. The graph indicates that 63 males worked as fishermen, 6 worked as fish traders, 3 worked as boat owners and 1 had another role. Furthermore, 69 females worked as fish traders, 1 worked as a boat owner, and 2 had worked other roles.

All the participant's worked an average of 41 hours a week. Men worked around 38.03 hours a week, while women worked around 43.98 hours a week. The majority of the participants (101) earn less than 5,000 KSH a month. From there, less participants are observed within the income brackets, as they increase from 5,000 KSH to 20,000 KSH. However, this trend does not hold true for the amount of participants that earn more than 20,000 KSH, which was surprisingly greater than the amount of participants earning between 15,000 to 20,000 KSH (Fig. 5). Despite this fact, a difference in income level can be observed based on sex. Around 51.25% of males were earning less than 5,000 KSH, while 75% of females were in that same income bracket. From there, more males are in each income bracket, from 5,000 to 20,000 KSH per month, other than the last bracket. Surprisingly, 10% of women, or eight participants, were earning more than 20,000 /=, while only 3.75% of males, or 3 participants, were in that income bracket (Fig. 5). Other than the last income bracket, it appears that women are generally working more hours for less money. This is concerning and brings to light a gender-based discrepancy in the income levels amongst the fisherfolk. However, it is interesting that more women are in the highest income bracket. There is not a lot of insight into why this might be the case, but it is definitely a topic that could be investigated more thoroughly.

Income Levels

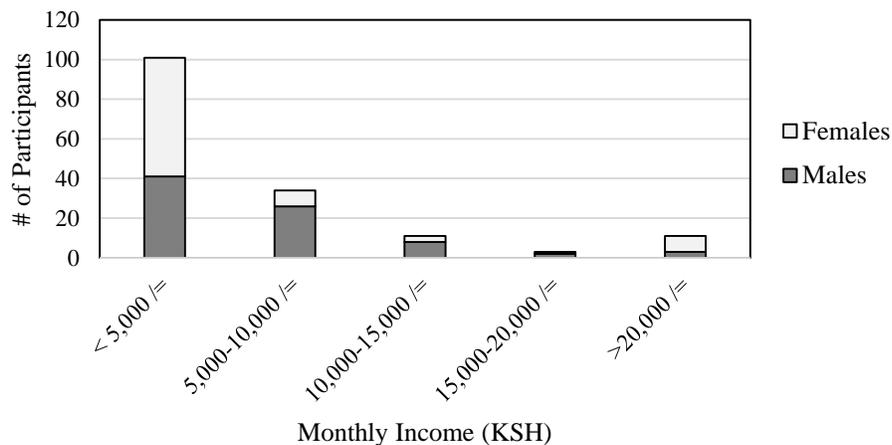


Figure 5. This graph indicates the income levels of all the participant, separated into 5 distinct income brackets: Less than 5000 KSH (41M/60F/101T), 5000-10000 KSH (26M/8F/34T), 10000-15000 KSH (8M/3F/11T), 15000-20000 (2M/1F/3T), and More than 20000 KSH (3M/8F/11T).

4.2 Sexual Backgrounds and Behaviors

Out of the 160 youths fisherfolk, 153 have had sexual intercourse (95.63%). The average and median age that the youth began having sexual intercourse was 15. There was not a significant difference between the ages that the males and females began having sexual intercourse. The average and median age of sexual debut indicates that the youth are having sex at an early age, but what is even more alarming is that some of the youth began having sex as early as 9 years of age (Fig. 6). About 6.54% participants began engaging in sexual intercourse at or before the age of 10, and more than 25% of the youth began engaging in sexual intercourse at or before the age of 13. This shows that it is imperative to discuss issues concerning risky sexual practices and HIV/AIDS by at some point between that age range of 9 to 13.

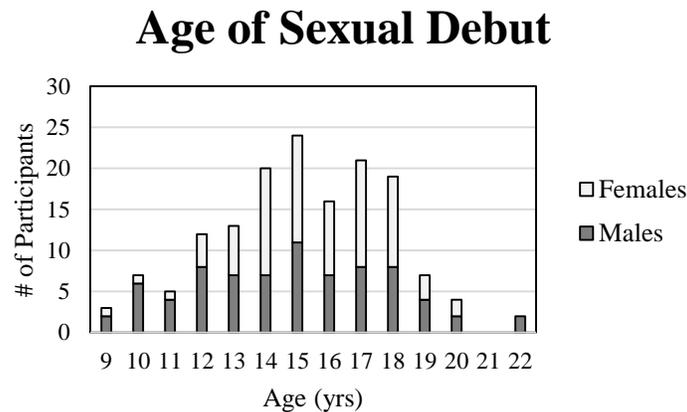


Figure 6. This graph indicates the distribution of the participants’ age of sexual debut. The ages ranged from 9 to 22 years old: 9 (2M/1F/3T), 10 (6M/1F/7T), 11 (4M/1F/5T), 12 (8M/4F/12T), 13 (7M, 6F, 13T), 14 (7M/13F/20T), 15 (11M/13F/24T), 16 (7M/9F/16T), 17 (8M/13F/21T), 18 (8M/11F/19T), 19(4M/3F/7T), 20 (2M/2F/4T) and 22 (2M/0F/2T).

An NGO program director (P_1003) had said that “[the youth fisherfolk] begin at a very early age. Some as early as 10 or 9 years of age. It is very early. I don’t know what would be the factor that pushes them to do early sex. But I guess the setup of the [fishing] community has put sex in everything, unlike other communities”. The data from the study directly supports this claim that they youth are engaging in sex as early as 10 to 9 years of age. What is also interesting is P_1003’s proposed role of the community set up. It is undeniable that the community has a large influence on the youth and how they develop. But it is the first time I have heard of things being hypersexualized in a Kenyan community or even in the Kenyan context. More research should be done on hypersexualization in Luo communities and how this phenomenon influences the youth’s age of sexual debut, as well as their perceptions on sex.

Table 1. This is a compilation of various cross tables that were performed between marital status and dependent variables such as sex, transactional sex, concurrent relationships, and condom use. Furthermore, chi-square tests and logistic integration analysis were performed to obtain p-values. The first proportion underneath the number is the number divided by the row total. The second proportion underneath the number is the number divided by the column total. (a) This is the cross table between marital status and sex. A statistically significant difference was found between males and females when it comes to being married ($p < 0.05$). (b) This is a cross table between marital status and participation in transactional sex. No statistically significant correlations were observed. (c) This is a cross table between marital status and participation in concurrent relationships. A statistically significant decrease in the participation of concurrent relationships was observed amongst married individuals ($p < 0.05$). (d) This is a cross table between marital status and condom use. There is a statistically significant correlation between condom use and being married ($p < 0.0001$).

		Single	Married	In a Rel.	Widowed	Total
Sex	Male	46 0.575 0.687	16 0.200 0.235	18 0.225 0.750	0 0.000 0.000	80 0.500
	Female	21 0.262 0.313	52* 0.650 0.765	6 0.075 0.250	1 0.012 1.000	80 0.500
	Total	67 0.419	68 0.425	24 0.150	1 0.006	160

		Single	Married	In a Rel.	Widowed	Total
Transactional Sex	Yes	36 0.409 0.600	35 0.398 0.515	17 0.193 0.708	0 0.000 0.000	88 0.575
	No	24 0.369 0.400	33 0.508 0.485	7 0.108 0.292	1 0.015 1.000	65 0.425

		Single	Married	In a Rel.	Widowed	Total
Concurrent Relationship	Yes	26 0.553 0.433	14 0.298 0.206	7 0.149 0.292	0 0.000 0.000	47 0.307
	No	34 0.321 0.567	54* 0.509 0.794	17 0.160 0.708	1 0.009 1.000	106 0.693

		Single	Married	In a Rel.	Widowed	Total
Condom Use	Always	36 0.545 0.600	16 0.242 0.235	13 0.197 0.542	1 0.015 1.000	66 0.431
	Mostly	1 0.125 0.017	5 0.625 0.074	2 0.250 0.083	0 0.000 0.000	8 0.052
	Sometimes	16 0.485 0.267	13 0.394 0.191	4 0.121 0.167	0 0.000 0.000	33 0.216
	Rarely	2 0.200 0.033	6 0.600 0.088	2 0.200 0.083	0 0.000 0.000	10 0.065
	Never	5 0.139 0.083	28* 0.778 0.412	3 0.083 0.125	0 0.000 0.000	36 0.235
	Total	60 0.392	68 0.444	24 0.157	1 0.007	153

Most of the participants were either single (41.9%) or married (42.5%). The majority of the other participants were in a relationship (15%), and there was only one widow in the study. There was a statistically significant difference between the amount of female and male participants that were married ($p < 0.05$). There were a total of 52 females, or 65%, that were married versus only 16 males, or 20%, that were married (Table 1a). This is another factor that plays in the lack of job opportunities for females, and another reason that may contribute to the high dropout rate in Mbita.¹⁶ Although there is not enough data to determine if there is a direct link between young marriage ages and factors, such as job opportunities and level of education, it would be an interesting topic for further investigation.

Transactional sex is an issue that has been well documented throughout Kenya, but even more so in the fishing communities.^{3,12-14} More than half (57.5%) of the participants reported that they had either given or received sex for money, gifts or favors in the past year (Table 1b). Interestingly enough, transactional sex was also the most commonly reported risky sexual behavior during KIIs (reported by 50% of participants) and it was also mentioned in all of the IDIs with NGOs. Transactional sex carries a lot of risk, especially in the spread of HIV/AIDS. The proportion of the youth engaging in transactional sex is concerning and the following quote from an 18-year-old female participant (P_3054) illuminates some of the youth fisherfolk's attitude towards transactional sex:

“If I need a pair of shoes and my parents are unable to get it for me. It will force me to go to any boy to go and buy me the shoe in exchange for sex.”

This attitude is concerning and really highlights the issue at hand: poverty. The economic imbalance is what really causes the youth to exchange their bodies for monetary purposes. The reason why transactional sex is amplified in regions, such as the fishing community, is the fact that poverty is rampant. Furthermore, out of the 41 girls that had participated in transactional sex (53.25%), 40 of them (97.56%) received compensation, 19 of them (46.34%) gave compensation, and 18 of them (43.90%) did both. On the other hand, out of the 47 males that had participated in transactional sex (61.84%), 25 of them (53.19%) received compensation, 43 of them (91.49%) gave compensations, and 18 of them (44.68%) did both. This underlines the fact that women are more likely to receive compensation while males are more likely to pay for sex. Contrary to the attitude that P_3054 displayed, other males in the fishing community had a

slightly different perspective on transactional sex. A 23-year-old male participant (P_2008) had this to say:

“So you find that mostly women, who are trading fish, are taking fish from the boats, and older women are luring younger men. So for example, I was lured by a neighbor, then I was given a gift like some money. And these older women are the ones carrying HIV/AIDS.”

This is interesting as it brings another issue at hand; intergenerational relationships. A lot of past research has indicated the existence of these relationships between younger females and older males in the fishing community.¹² However, not much has been documented about intergenerational relationships between younger males and older females. This is surprising as 3 of the 8 male KII participants (37.5%) mentioned this as a risky sexual behavior they have observed in the fishing community. This issue really underlines how important it is to educate not only the youth but also the community at large. A communal behavioral change cannot truly occur without the participation of the whole community. This is the only way that an issue, as pressing as transactional sex, can be tackled.

Participation in concurrent relationships was not as prevalent as transactional sex amongst the youth fisherfolk (30.7%). Past studies conducted in Kisumu fishing communities have indicated that concurrent relationships amongst married couples was a pressing issue and key factor in the transmission of HIV/AIDS¹⁷. Although this may have been found in Kisumu fishing communities, the results do not appear to be consistent amongst the youth in the Mbita fishing communities. In fact, a statistically significant difference was observed between marital status and participation in a concurrent relationship ($p < 0.05$). So out of the 68 married participants, 54 of them (79.4%) reported that they have not engaged in a concurrent relationship in the past year (Table 1c). This is encouraging as it shows that married participants are generally being loyal to their partners. The discrepancy between the Kisumu study's findings and this study can be due to a multitude of factors. One of them being, that only the youth were being observed in this study. Also, it is important to note that all fishing communities are not the same. It would be interesting to see how the risky sexual behaviors and practices are different between fishing communities in different regions of Nyanza.

One of the most effective and efficient preventative measures to HIV transmission is the use of condoms. The data indicates that 66 out of the sexually active participants (43.1%) are

using condoms all the times, 8 participants (5.2%) are using condoms most of the times, 33 participants (21.6%) are using condoms sometimes, 10 participants (6.5%) are using condoms rarely, and 36 participants (23.5%) have indicated that they never use condoms during sexual intercourse (Table 1d). The use of condoms is definitely an issue that must be addressed amongst the youth. However, what is reassuring is that a majority of the sexually active single participants (60.0%) are using condoms all of the times. This is definitely promising, but increasing condom use amongst the youth is still essential. Furthermore, condom use was found to be very low amongst married participants, with 28 of them indicating that they never using condoms during sex (41.2%). This correlation between marital status and never using condoms during sex was actually found to be statistically significant ($p < 0.0001$). Although the data indicates that married participants were statistically less likely to engage in concurrent relationships or extramarital affairs, it is still advisable for these participants wear condoms during sex. This is due to the fact that they may be faithful, but it is impossible to know how faithful your partner is.

Out of the 14 participants who were asked about condom use, 50% of the KII participants indicated that condom use was not very common amongst their peers, while the other 50% believed that they were only being used sometimes. Furthermore, 5 of the participants (35.71%) stated that the main reason for this low to moderate use of condoms was the lack of knowledge that the youth had. This was also an issue that was brought up by all of the NGOs that participated in IDIs. One of the NGO directors had this to say about condom use (P_1003):

“There is a saying that they are so used to in the fishing community: a cow will always die with grass in its mouth. It doesn’t matter if you wear a condom or what, be infected but you will just die like any other man.”

This perception is really hurting the fishing community and adversely affecting the use of condoms. If the fisherfolk, especially the youth, grow up with this attitude it will really increase their risk of getting HIV/AIDS. Although ARVs do provide an opportunity for those living with HIV to live a normal life, it is not worth the risk that you would put yourself at. Furthermore, the emotional and social strains that the virus has on an individual is something that should not be discounted. Other than this, some of the KII participants (7 females and 1 male), indicated that they believe that others are intentionally trying to spread HIV/AIDS. This quote from a 23-year-old female participant (P_3019) offers some insight:

“Some are HIV positive but they are cheating others and saying they are negative. They do this by showing a blank card that does not indicate their status, but they show the card to show they got tested and they say that they are clean.”

If this is true, then it is very concerning. The reasons why individuals would want to spread the disease is puzzling. Once again, it may come down to the individual’s attitudes towards HIV. If one believes that it is not a big deal to live with the disease, then they may be more willing to give it to another. Perhaps, some individuals believe that if they spread the disease, and everyone else is infected, then they can fit in better with others. One cultural reason that has been stated by a NGO supervisor (P_1005) is the local’s belief in witchcraft and other forms of non-traditional medicine. He stated:

“There are those that are positive that feel that if they have sex with a virgin girl, then it will treat them. It is a myth.”

This myth is disturbing but brings to light the cultural differences that must be kept in mind when coming into Kenya as a foreigner. It is also interesting to note that most of the participants, that stated this was an issue, were females. It seems that this perception that is gender-based, where females believe males are trying to intentionally infect them. With the data that was collected it is impossible to tell if men are actually doing this, but the fact that so many of the female participants brought up this issue, it should be looked into more thoroughly. Regardless of the underlying rationale that these individuals may have, it is definitely an issue that has to be addressed.

4.3 Knowledge on HIV/AIDS

Based on the 16 KII participants, a majority of the participant’s primary resource for HIV/AIDS education is from school (50%). The other reported sources of knowledge are home/family, hospital, community, and peer education training (Fig. 7). It is interesting that school was their primary source for HIV/AIDS knowledge of many of the participants, as many of the participants dropped out of school by primary or secondary school. Therefore, this brings into question how much of the information on HIV/AIDS they have actually retained.

Source of HIV/AIDS Knowledge

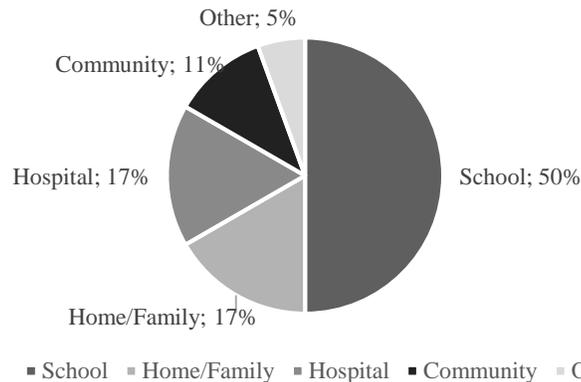


Figure 7. A pie chart displaying the distribution of the different reported source of knowledge from KIIs: School (9T), Home/Family (3T), Hospital (3T), Community (2T), Peer Education Training (1T)

The average HIV-KQ score for all the participants was 71.25%. A statistically significant difference ($p < 0.05$) was found between the KQ scores for males and females, with males scoring an average of 73.47% and females scoring an average of 67.92%. It is already known that women are biologically more at risk for contracting HIV/AIDS.³ This makes their lack of knowledge that much more worrisome. It is unfortunate that more has not been done to push for the movement to educate girls on HIV/AIDS in these high risk populations (i.e. fishing communities), despite knowledge of this gender-based discrepancy in HIV/AIDS prevalence. It is important to keep in mind that the girls within these fishing communities are not only more vulnerable biologically, but also more at risk due to the lack of job opportunities they have in these communities. These factors make it that much more complex to diagnose the best avenue to teach these girls, and to really understand where their gaps in HIV/AIDS knowledge really lie.

HIV-KQ-18 Results

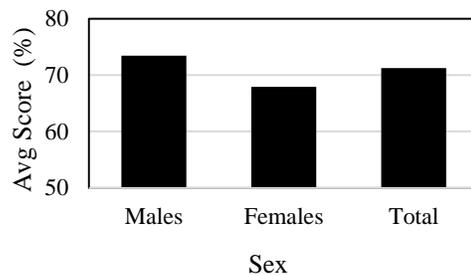


Figure 8. HIV-KQ-18 results based on sex. This graph shows that the males average score was 73.47%, females average score was 67.92 and the total average was 71.25%.

Furthermore, there appears to be a correlation based on the averages KQ score and highest level of education, as well as average KQ scores and current school status. For those whose highest level of education was nursery/primary school their average KQ score was 67.73%, while those whose highest level of education was secondary school had an average KQ

score of 73.35%. Lastly, participants whose highest level of education was post-secondary school had an average KQ score of 79.51%. Moreover, those who were attending school had an average KQ score of 75.84, compared to 69.92 for those who were not. Linear regression analysis was used to determine statistical significance. When the KQ scores and these two factors were compared individually, the differences in scores were found to be statistically significant. However, when the data was normalized and the factors were put into one model, they were no longer statistically significant ($p = 0.24$, $p = 0.10$ and $p = 0.60$ for secondary school, post-secondary school, and school status respectively). Past studies have indicated that highest level of education does not have an impact on HIV/AIDS prevalence.³ If this is the case, then it would make sense that there was not a statistically significant difference in HIV/AIDS knowledge based on highest level of education and school status. It may also be a testament to the ineffectiveness of sexual education in these school settings.⁶

Not only was the knowledge level that the participants had on HIV/AIDS statistically correlated with their sex, but also with their participation in transactional sex ($p < 0.05$). On average, those who were participating in transactional sex had a KQ score of 68.56%, compared to a KQ score of 74.09% for those who were not participating in transactional sex. However, no statistical significance was found between KQ scores and concurrent relationships or KQ scores and condom use. This was interesting and it is unknown why knowledge on HIV/AIDS would be correlated with one risky sexual behavior but not another. One possible reason is that polygamy is generally excepted in rural Luo culture. “Among polygamous people there is a tendency of men having significant extramarital affairs.”¹⁸ Therefore, concurrent relationships may be seen as a regular practice. On the other hand, transactional sex may not be as engrained in the local culture, making it easier to avoid the risky sexual behavior with correct HIV/AIDS knowledge. Furthermore, it is interesting that knowledge on HIV/AIDS is not correlated with condom use. This may be a result of the large proportion (44.4%) of participants that are married since they are more likely to not use condoms during sex. This analysis was not done since the principal investigator did not have the proper knowledge on how to perform this statistical analysis. However, it would be interesting to do the linear regression analysis, with and without married participants, to see how KQ scores and condom use are correlated after this adjustment.

4.4 Barriers to HIV/AIDS Programs

A majority of the participants have attended a HIV/AIDS education program and gotten tested for HIV (72.5% and 93.13%, respectively). It is definitely encouraging that so many of the participants have attended these HIV/AIDS programs. Moreover, details on why the participants have or have not attended either HIV/AIDS education program and why they might have or have not gotten tested for HIV, were gathered during the KIIs. The following quote is from an 18-year-old female participant (P_3054) that offers some insight into her major barrier to attending HIV/AIDS education programs:

“Most of the times, I am in school. And around the community, I have never had a HIV/AIDS education program. But I would like to attend some to learn more about HIV/AIDS.”

This quote really reflects the unavailability of these education programs in these communities. Almost all (5 out of the 6) KII participants indicated unavailability of the programs as the main reason why they have not gone. This indicates that NGOs and other organizations should make more of an effort to meet the participants where they are residing. This in itself is a tall task, as NGO director (P_1003) stated:

“It’s really not so easy to reach these groups, where you can’t find them. Yes NGOs are around, but they have a limit. You can be given money that is only meant for you to reach about I am afraid to get tested because I do not want to go alone. If I could get somebody to go with me, I would go 400 people. 400 people out of 6,000 people! That is a drop in the ocean.”

The statement really shows the limited role that NGOs can play in the fight against HIV/AIDS. But hopefully more funding can be distributed to NGOs in these areas, as these fishing communities have shown that they are the ones that are most affected by HIV/AIDS. Furthermore, it is not always on the NGO to reach out the community members. For example, the 1 participant (P_2075) who did not state unavailability as the barrier to attending these programs, had indicated that he did not feel like the HIV/AIDS education programs were important to attend. This indicates the low risk perception that he has for getting HIV. It was found that 2.5% to 3.5% of those who have low risk perception for HIV infections, are actually infected.³ This carries a lot of risk as these individuals are usually the ones who do not feel the need to get tested. And as stated before, early detection is key to preventing the progression of the disease.

There were only 2 KII participants (P_2075 and P_3046) that indicated they had not gotten tested for HIV on the surveys. There was also 1 KII participant (P_2065) that had gotten tested once when he was younger but has not gone to get tested since. As stated earlier, risk perception plays a very large role in transmission of HIV. This is what P_2075 had to say:

“I’ve never felt any signs of illness. So there is no reason for me to go and get tested”

This really adds some support to the previous claim; that those who have low risk perception for HIV infection are less likely to go and get tested. A previous study done amongst youth in Nyanza found that there are a lot of factors that affect a person’s individual risk perception, such as knowledge about HIV, belief about myths, condom use, engagement in risky sexual behavior, pressure to have sex, and knowing someone who is infected with HIV.¹⁹ The low risk perception of P_2075 and his KQ score of 55.56% falls in line with the results from this previous study. Tackling low risk perception at the individual level is a difficult challenge, but it must be done in order to get those individuals to know their HIV status. This quote from P_3046 give us more insight into another reason why the youth are not getting tested HIV:

“I am afraid to get tested because I do not want to go alone. If I could get somebody to go with me, I would go.”

The quote underlines the prevalence of stigma in the community. In many ways, the youth are not encouraged to go and get tested for HIV. Rather they are frowned upon when they go to these clinics, as it is a proclamation that they are sexually active. Stigma will always be an issue, but one way to combat it would be to increase the accessibility of youth friendly health services. Another interesting thing about this quote is that she indicated that she would go if someone would go with her. This goes back to the influence that peers can have on one another, and is definitely an indication of the positive impact that peer influence can have. The following quote from P_2065 illuminates yet another reason for not getting tested for HIV:

“I used to hear from people saying that there is something called HIV/AIDS testing. So I just decided to go and know my status cause I was curious. I have not gotten tested since because I would feel guilty. I am afraid that I might go and find that I am positive. And that would not be a good result for me”

This quote has really shined a light on two issues: the importance of regular testing and the fear of guilt. The interview with P_2065 really brought out some big flaws in the way some of the survey questions was asked. This will be elaborated on in the limitations sections. Either way, just knowing that an individual has gone to get tested for HIV does not really paint the full picture. This is because it is necessary to get tested every 3 months to know your HIV status, especially if you are sexually active. A survey indicated that 71.3% of individuals have gone to get tested for HIV at least once, but only 55.7% reported that they go regularly.³ It is important to get the youth fisherfolk to understand that they have to not only get tested for HIV, but to also get tested regularly. Furthermore, P_2065 also indicated that he would feel guilty. This is most likely cause he has had unprotected sexual intercourse with different partners. And if he were to find out that he was HIV positive, then that would mean he could have potentially spread it to those partners. The reason why he would feel guilty is understandable, but this brings up the issue of stigma again. It is important to teach the youth that it is better to go and get tested, then tell their sexual partners if they get an unfavorable result. Once again, the importance of early detection cannot be overlooked. HIV/AIDS is not something that will kill you right away, and learning to live with your status is the only way these individuals can make a change and decrease the rate of prevalence/transmission. Stigma is the first wall that has to be broken down to really enable this to happen.

Furthermore, KII participants were asked of ways that they believed NGOs and different organizations could get more youth fisherfolk to attend both HIV/AIDS education programs and HIV testing programs. From these two KII questions, a total of 5 categories/themes were identified as a possible way to get more youth involved: 1) Seminars/Campaigns/Rallies, 2) Approaching youth individually, 3) BMU involvement, 4) Incentives, and 5) Fun activities. The first category (the use of seminars, campaigns, and/or rallies) was mentioned 9 times and the second category (approaching youth individually) was also mentioned 9 times. This is interesting as they are very different approaches to getting the youth involved. However, what this may indicate is that the people are different and some people are more responsive to group approaches while others are more responsive to individual approaches. Furthermore, getting the BMU involved to mobilize the youth was mentioned 7 times, incentivizing attendance to increase participation was mentioned 5 times, and bringing fun activities to attract the youth was mentioned 3 times.

It would be best for NGOs to integrate both methods (group and individual approaches) in the order to get youth who may be receptive to one approach but not the other. If NGOs only take one approach, you may find that some individuals will be unresponsive. The KII responses also indicated how much influence the BMUs and local leaders have amongst the youth. They are an invaluable resource, and they should be able to help the NGOs get in contact with the youth and better reach them. The BMUs and local leaders should be contacted and NGOs should try to work closely with them to get the youth mobilized effectively. It is also not a surprise that individuals brought up incentivizing participation. Money or small gifts can be extremely influential in poorer communities, such as those along the beaches. However, this approach is not advisable as it is not a sustainable way to help the youth fisherfolk. It is also not an economically sound approach. Rather, the use of fun activities (such as football and cinema), could be a better avenue.

4.5 Microclinic Peer Education Program

The idea of the microclinic peer education HIV/AIDS program was just that in the beginning; an idea. However, through feedback from NGOs program directors/supervisors and local community members, the idea was sculpted into a much more refined model (Appendix 7.5). For the most part the five different NGO directors and program coordinators (P_1001 to P_1005) have really helped shape the skeleton of the program, and they were instrumental in the finalization of some of the finer details of the program. Issues and suggestions that were brought up were: 1) the importance of having fun and engaging activities, 2) coverage, 3) retention of the youth, 4) involvement of the leadership in the area. 5) engaging both girls and boys, 6) sustainability, 7) youth friendly VCT services and 8) a research-based approach.

The inclusion of fun and engaging activities was stated as one of the most effective ways to engage the youth. This is essential for this proposed program, as the youth are the main target population. In terms of coverage, if the program is stretched too thin and too many beaches are involved, then it would become too difficult to mobilize the youth from all these different beaches. This is why the proposed model would be conducted at individual beaches (or at 2 to 3 beaches that are within walking distance from one another), rather than at a facility where people would have to travel to. Furthermore, to retain the youth, it was suggested that the lesson plans

and the program itself should not be too long. This is definitely being taken into consideration and it was decided to make the program a little bit shorter. One possible option would be the scheduled school breaks in December, April and August (which are 4 weeks, 3 weeks and 3 weeks long, respectively). This would not only keep the youth interested, but during these time many youths will be around the beaches. This should help create more microclinic peer groups, and a more youth friendly environment.

When it comes to engaging both girls and boys in activities, it is essential to come up with activities that they could enjoy regardless of gender. However, based on different interests that girls and boys have, it was decided that it would be best to separate the teams by sex. This is also because the different sexes face different challenges in terms of HIV/AIDS prevention and risk factors. But despite the fact that these groups would be separated by sex, it would be essential for the separate groups to interact and have inter-group discussions. This is because change amongst the youth cannot occur if only one side (or sex) of the situation is being changed. Similarly, it is important to involve the leadership of the community, and the other age groups as well, so that the change is not only seen amongst the youth but in the community as a whole. The prevalence of intergenerational relationships makes this interaction, between youth and older age groups, even more essential.

Another big issue that many of the NGO workers brought up was sustainability. Sustainability is an issue that almost any and every HIV/AIDS program faces. This is because many of the NGOs rely on outside funding sources, such as USAID, UN, etc., to keep their programs afloat. This is a troubling reality, and despite having programs that help in the moment, all the change will become unraveled over time and insignificant once the funding dries up and the programs stop running. So the real goal is to find a consistent source of funding. This is not an easy issue to tackle, but one possibility would be to have a graduation ceremony/event similar to the one used during the Mfangano pilot study.¹¹ This graduation ceremony occurred at the end of the 10-week microclinic program, and people were brought to a center where they could get tested for HIV and receive shirts for their participation in the program.

The way a graduation ceremony could possibly offer a means to address sustainability will be discussed soon. Nevertheless, if this ceremony were set up in the beaches, then it would offer an opportunity for the youth to come together and celebrate the completion of the program.

It would also offer the youth and all the other community members a chance to get tested for HIV. If the program is big enough, then it can even be set up as a competition between groups and the graduation ceremony could also act as an award ceremony for the “best team”. This graduation ceremony would initially rely on outside funding, but it represents an opportunity for the program to gain some money. For example, if there is music and food at this ceremony, other community members (non-program participants) who are interested in joining would be able to do so through a small monetary contribution. Furthermore, local business can also invest money into the ceremony so they can advertise their business (this can be local shops, banks, etc.). At first, outside funding would be needed, but the hope is that over time this program can be self-sustaining and maintained internally within the beaches.

Another suggestion that was brought up was having a research based approach. Similar to this study, a study can be conducted to determine where the youth fisherfolk have gaps in HIV/AIDS knowledge and which issues are most pressing. This will help determine which topics should be covered during lesson plans. It is still important to have the peer educators involved in the formation of these lesson plans. Instead of just creating the curriculum straight off the bat, the input of the peer educators should be considered. Here is an example of how the curriculum will be formed, while also balancing the facilitators’ input and the peer educators’ input:

First the researchers will identify some of the biggest issues in the community (i.e. lack of knowledge on biology of the virus, stigma about getting tested, etc). Perhaps they list 10 big issues they were able to identify through this research based approach, and the curriculum will touch upon 5 of them. After presenting the research to the peer educators, maybe the top 2 HIV/AIDS issues (that are deemed necessary to teach) will be put in the curriculum by the facilitators, but the other 3 issues can be chosen by the peer-educators. This would ensure that the peer educators are really involved in the process, and become more heavily invested in the formation of the program.

The KII participants were also asked about peer education and the microclinic peer education model. For the most part all the KII participants had good things to say about peer education, with the exception of one male participant (P_2065). This was P_2065’s opinion on peer education:

“It’s not good. It can make someone who has HIV/AIDS feel guilty. For example, let’s say my girlfriend has HIV/AIDS then what about me. Then maybe, if you find out your girlfriend has HIV/AIDS, you can decide to not talk with her. This can cause someone to go hang themselves. And within a peer group one can cheat the others.”

The quote also underlines the stigma that individuals have on HIV/AIDS. It is eye-opening that P_2065 states that an individual would rather commit suicide, than live as or with a PLWHA. There is some truth in his statement, relationships are strained when topics as sensitive as HIV are brought up, but that is why education is that much more important. With proper education on HIV/AIDs, individuals will stop attaching so much stigma to the topic. And when the issue is not as stigmatized, it makes it easier to discuss with peers and significant others, without the aforementioned guilt. Furthermore, the belief that peer groups can have a negative influence on others is a valid concern. Peer pressure is a serious issue, and is a major reason why many individuals engage in risky behaviors, such as sex and drugs. The truth is this is a major challenge that utilizing peers faces. If the peer group is not supportive, then it will be hard to really change their behaviors in a positive way.

Presentation of the microclinic peer education program, during KIIs, generally got positive responses (15/16 participants reported that it was a good idea). Only 3 participants gave substantial feedback (P_2006, P_2015, and P_2052). Both P_2015 and P_2052, mentioned understanding of the target population as being necessary. This will definitely be addressed with the research-based approach before program initiation. The input that P_2006 had stemmed more from a misunderstanding. However, it was still very interesting. Here is what he had said:

“We are also afraid of white males cause we believe that they are the devil worshippers. If you want to talk to these youth, bringing them together in music, providing them with some things, some will think that there is something going on and run-away”

This is the influence that the “mzungu” (white man) has. First of all, P_2006 misunderstood and thought that mzungus would be the peer educators. This is not the case, as the peer educators would be from the fishing communities. Either way, the quote really highlights why the local youth fisherfolk have to be the ones teaching their peers. In fact, it is probably best for mzungus to not even be facilitators. Change has to come from within, and foreigners should not barge in, change things, tell people what to do, and then leave. To make a lasting and significant impact, the mzungu can act as a guiding hand, but they have to allow the locals to implement the programs and teach one another. That is when real, sustainable change is possible.

5.0 CONCLUSION

5.1 Summary of Research Findings

Overall, some interesting results have come out of the data from this study, and the specific objectives have been fulfilled. It is hard to say that the fight against HIV/AIDS is successful in these fishing communities. Nevertheless, there were some promising results, that offered hope that there is a progress being made amongst the youth fisherfolk. However, other results indicate that many problems are still evident and that there is still a long way to go.

Some encouraging results include the fact that a majority of the single participants were using condoms all the times (60%). Also most married participants (79.4%) reported that they did not engage in concurrent relationships ($p < 0.05$). In fact, a majority of the participants were not engaging in concurrent relationships at all (69.3%). Furthermore, a majority of the participants have attended a HIV/AIDS education program and gotten tested for HIV (72.5% and 93.13%, respectively). These results do not mean that these issues should no longer be addressed. Instead community members and NGOs should make sure the progress is maintained and that it does not come undone. Despite the progress in these areas, there is still a lot of work to be done in some of the other areas.

One area that is particularly concerning is how young some of the fisherfolk are during their sexual debut. More research has to be done to understand the community influence on the youth's perceptions on sex and determine factors that can help delay their sexual debut. Another area of concern is transactional sex. A majority of the participants indicated that they have engaged in transactional sex (57.5%). This high rate of transactional sex participation is likely due to poverty (63.13% earn less than 5,000 KSH a month). A statistically significant correlation was also found between participation in transactional sex and knowledge level on HIV/AIDS ($p < 0.05$). Therefore, increasing the youth fisherfolk's HIV/AIDS knowledge can potentially decrease participation in transactional sex. Moreover, condom use may be high amongst single participants, but most married participants are never using them during intercourse. This is extremely risky, as the participants may be loyal, but they can never know what their partners are doing outside of the house.

When looked at holistically, the results have painted a picture where the young females are significantly more disadvantaged than males. For example, a lower percentage of females'

highest level education is secondary or post-secondary school, less females are currently attending school, more females are at lower income brackets (except for the highest income bracket), and females have less knowledge on HIV/AIDS ($p < 0.05$). Females even have to worry about males trying to intentionally infect them with HIV. The reasoning behind these gender-based differences is hard to rationalize. There is a plethora of cultural and financial aspects that could be contributing to these inequities. And it is probably not one factor alone, rather a combination of multiple, such as poverty, lack of job opportunities, young marriage ages, etc. More programs should focus on females and their education of HIV/AIDS and economic empowerment. It is unacceptable that the females in these fishing communities are subjected to all these injustices. Not only is it unfair, but it also puts these females at a higher risk for contracting HIV/AIDS.

To get more youth fisherfolk to attend HIV/AIDS programs, it is important to increase the availability of the programs. There are definite challenges with this proposition, but something has to be done. When NGOs do go to the community it is important to work closely with local community organizations (BMUs, churches, etc). Staff should approach potential participants in groups and also on an individual basis. Although factors such as low risk perception and stigma may hinder some of these individuals, it is important to draw in these youth by engaging them in a fun manner. Avoid using money or gifts as an incentive, as it is not a sustainable way to get participants to attend these programs.

The microclinic peer education model is still far from being a finished product. However, the final microclinic peer education model has addressed the 8 issues and suggestions that were brought up by NGO staff members: 1) the importance of having fun and engaging activities, 2) coverage, 3) retention of the youth, 4) involvement of the leadership in the area. 5) engaging both girls and boys, 6) sustainability, 7) youth friendly VCT services and 8) a research-based approach. The main goal is to roll out this microclinic peer education program as soon as possible. A pilot study would have to be implemented initially, but there is potential for the program to make an immediate and significant impact. The Organic Health Response, in Mfangano Island, has already conducted their third microclinic program and their fourth is on the way. Spreading the microclinic programs, and this model in particular, can help many in the fight against HIV/AIDS. And in the big picture, the fight against inequities in health.

5.2 Study Limitations

Time was the biggest limitation. There was not enough time to collect data, not enough time to analyze data, and not enough time to write this paper. More than anything else, the principal investigator's time management was poor (to say the least). On a more serious note, it would have been nice to get a larger sample size; one that could have been representative of all the beaches in Mbita. Moreover, it would have been better if more statistical analysis could have been done. It is important to note that all the results from the study are based on a fairly small sample size (160 participants). Therefore, the statistical analysis and correlations may not be 100% representative of the actual situation at hand.

There were also some limitations with the survey structure. The questions about participation in HIV/AIDS education programs and HIV testing should have been more in depth. This is because an individual going to VCT for an hour is not the same as going to a one-week HIV/AIDS education program. There is also a significant difference in getting tested for HIV once and going to get tested for HIV on a regular basis. It is important to note that the question about the participant's role in the fishing community was not included until the 16th participant was enrolled in the study. Furthermore, the last question (Q.18) on the HIV-KQ was omitted for the calculation of the first 40 participants' scores. This is because "lubricant" was in the question instead of "hand lotion". Since the replacement of this word results in two very different questions/answers, the principal investigator decided that it was necessary to omit this question when analyzing the data for the first 40 participants. Lastly, the first male research assistant had personal matters to attend to, so another male research assistant was hired for three beaches. The administration of the survey may not have been consistent between the two male research assistants. This is a potential source of error in the data.

5.3 Recommendations for Future Studies

My first recommendation is to manage your time better than I had, especially if you are considering get a lot of data. You should probably give yourself about 1.5-2 weeks to write the paper. If you push it to the last minute, I guarantee that you will be pulling some all-nighters. Also if you want to do statistical analysis, you should get R-Studio. It's not too hard to learn and there are a bunch of tutorials on YouTube if you ever get stuck.

Future students should definitely consider conducting their studies in Mbita. Mbita town is close to most of the beaches, making it significantly easier to get to the field and collect data. But if you want to work in the fishing communities, make sure that you are willing to give a summary of your report to the BMU offices after you are done. Note that these are poorer communities, and areas where a lot of past research has been conducted. Researchers come into these areas, collect their data and leave. This is very disheartening to the members of the community, and makes them skeptical of the research process. A lot of the locals believe that researchers are just getting data from them and then profiting off of the results/papers. Regardless of where you go to do your research, try to give the community, that you collect data from, a summary of your final report.

Some of the NGOs that you should contact if you are interested in conducting research in Mbita or Homa Bay, are DEVLINK, EGPAF, and The Organic Health Response (OHR). DEVLINK has been incredibly helpful throughout my ISP, and they have some of the nicest staff members you will ever meet. EGPAF is running a lot of different programs around Homa Bay Town, and they have a lot of staff members at their main building. I only got a glance into their operations (I was only there for one interview), but they are doing a lot of great things there. Lastly, OHR is based in Mfangano Island. They are doing a ton of research, and if you are interested in microclinic interventions, that is the place to be. Just a quick tip with contacting these NGOs, it is hard. It gets annoying, but you have to just be persistent. I would recommend that you start contacting them as soon as possible. Finding the right contacts online is always a challenge as well. It is not the easiest thing to do, but a lot of these NGOs can give you good information.

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7.0 APPENDIX

7.1 Consent Form



CONSENT FORM

1. Brief description of the purpose of this study

The main objective of this study will be to determine the factors that inhibit the youth fisherfolk (ages 18-24), within Mbita Town, from attending HIV/AIDS programs. The specific objectives are to determine the knowledge level that the youth fisherfolk have on HIV/AIDS, assess sexual practices and behaviors that the youth fisherfolk participate in, identify perceived barriers of the youth fisherfolk to getting more educated on HIV/AIDS as a whole, and explore the operational and programmatic issues that a HIV/AIDS peer-education program might face. Approximately 150 youth fisherfolk, within Mbita Town, will be participating in this study.

2. Ability to withdraw from study

If at any point in the study you feel uncomfortable, you have the right to withdraw from the study. Your comfort is the main priority, and please let us know if there is anything that is troubling you.

3. Obtaining a phone number

A phone number is not required; however, if you are interested in participating in a key informant interview a phone number will be needed to get in contact with you at a later date. Also, please leave a phone number if you are interested in getting a summary of the research results.

4. Compensation for participation

There is no monetary compensation for participation in the study. However, the results of the study will be used to better HIV/AIDS programs within the community. You will also be reimbursed for any transport costs that you may incur to get to a key informant interview.

5. Rights Notice

In an endeavor to uphold the ethical standards of all SIT ISP proposals, this study has been reviewed and approved by a Local Review Board or SIT Institutional Review Board. If at any time, you feel that you are at risk or exposed to unreasonable harm, you may terminate and stop the interview. Please take some time to carefully read the statements provided below.

- a. **Privacy** - all information you present in this interview may be recorded and safeguarded. If you do not want the information recorded, you need to let the interviewer know.
- b. **Anonymity** - all names in this study will be kept anonymous unless the participant chooses otherwise.
- c. **Confidentiality** - all names will remain completely confidential and fully protected by the interviewer. By signing below, you give the interviewer full responsibility to uphold this contract and its contents. The interviewer will also sign a copy of this contract and give it to the participant.

Participant's name printed

Participant's signature and date

ID Number (will be assigned)

Interviewer's name printed

Interviewer's signature and date

7.2 General Questionnaire

Date: _____	
Location: _____	
ID Number _____	Phone Number (if applicable) _____
Age _____	Sex _____ M / F _____
	Ethnicity _____
1a. What is your highest level of education?	
a) Nursery b) Primary School c) Secondary School d) College e) University f) No Schooling	
1b. Are you currently attending school? _____ Y / N _____	
2a. What age did you begin working as a fisherfolk? _____	
2b. How long have you been working as a fisherfolk? _____	
2c. What is your role in the fishing community?	
a) Fishing crew b) Fish trader c) Boat owner d) Net mender e) Boat repair f) Other	
3a. Approximately how many hours do you work a day? _____	
3b. Approximately how many days do you work a week? _____	
4. How much income do you generate per month?	
a) < 5,000 /= b) 5,000 -10,000 /= c) 10,000 -15,000 /= d) 15,000 -20,000 /= e) > 20,000 /=	
5. What is your marital status?	
a) Single b) Married c) In a relationship d) Widowed e) Other	
6a. Have you ever had sexual intercourse? _____ Y / N _____	
[If you select <u>no</u> , please skip to question 9]	
6b. If so, how old were you when you had sexual intercourse for the very <u>first</u> time? _____	
6c. In the last 12 months, have you had <u>more than</u> one sexual partner at the same time? _____ Y / N _____	
7. Do you use condoms during sex?	
a) All the times b) Most of the times c) Sometimes d) Rarely e) Never	
8a. In the last 12 months, have you <u>ever received</u> money, gifts, or favors in exchange for sex? _____ Y / N _____	
8b. In the last 12 months, have you <u>ever given</u> money, gifts, or favors in exchange for sex? _____ Y / N _____	
9. Have you ever been to a HIV/AIDS Education Program (outside of school)? _____ Y / N _____	
10. Have you ever been tested for HIV? _____ Y / N _____	
* Would you be interested in participating in a Key Informant Interview? _____ Y / N _____	

7.3 HIV Knowledge Questionnaire 18

HIV-KQ-18

For each statement, please circle "True" (T), "False" (F), or "I don't know" (DK). If you do not know, please do not guess; instead, please circle "DK."

	True	False	I don't know
1. Coughing and sneezing DO NOT spread HIV.	T	F	DK
2. A person can get HIV by sharing a glass of water with someone who has HIV.	T	F	DK
3. Pulling out the penis before a man climaxes/cums keeps a woman from getting HIV during sex.	T	F	DK
4. A woman can get HIV if she has anal sex with a man.	T	F	DK
5. Showering, or washing one's genitals/private parts, after sex keeps a person from getting HIV.	T	F	DK
6. All pregnant women infected with HIV will have babies born with AIDS.	T	F	DK
7. People who have been infected with HIV quickly show serious signs of being infected.	T	F	DK
8. There is a vaccine that can stop adults from getting HIV.	T	F	DK
9. People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV.	T	F	DK
10. A woman cannot get HIV if she has sex during her period.	T	F	DK
11. There is a female condom that can help decrease a woman's chance of getting HIV.	T	F	DK
12. A natural skin condom works better against HIV than does a latex condom.	T	F	DK
13. A person will NOT get HIV if she or he is taking antibiotics.	T	F	DK
14. Having sex with more than one partner can increase a person's chance of being infected with HIV.	T	F	DK
15. Taking a test for HIV one week after having sex will tell a person if she or he has HIV.	T	F	DK
16. A person can get HIV by sitting in a swimming pool with a person who has HIV.	T	F	DK
17. A person can get HIV from oral sex.	T	F	DK
18. Using hand lotion or baby oil with condoms lowers the chance of getting HIV.	T	F	DK

7.4 Interview Guide

General Instructions

Get consent before the interview commences. Ensure that the participant is fully aware of what you are asking for and what types of questions you will be asking during the interview before getting consent. Also remind participants that they will be recorded and that they are allowed to terminate the interview at any point. If they look uncomfortable take the initiative and remind them of their rights. Avoid asking leading/close-ended questions.

Question for KII

1. What are your primary sources for information on HIV/AIDS?
2. What are some risky sexual behaviors you have observed amongst the youth fisherfolk?
3. What are some reasons why you have/haven't gone to HIV/AIDS education programs?
4. How would you get more people (14-24 y/o) to attend HIV/AIDS education programs?
5. What are some reasons why you have/haven't gotten tested for HIV/AIDS?
6. How would you get more people (14-24 y/o) to get tested for HIV/AIDS?
7. What are your thoughts on peer education?
8. Presentation of MCI/Peer Education program, get feedback.

Question for IDI

1. What HIV/AIDS programs does your organization support?
2. What are some risky sexual behaviors you have observed amongst the youth fisherfolk?
3. What are barriers that you believe hinder the youth fisherfolk (14-24 y/o) from going to HIV/AIDS education programs?
4. How have you addressed these barriers?
5. What are barriers that you believe hinder the youth fisherfolk from getting tested for HIV?
6. How have you addressed these barriers?
7. What are your thoughts on peer education?
8. Present MCI/Peer Education program, get feedback.

7.5 Microclinic Peer Education Model

To establish a microclinic peer education HIV/AIDS program, the training of the peer educators will be essential. Peer educators will have a chance to make a real impact on the community and will have an integral role in the development of the program. Facilitators will be present to guide these potential peer educators, and help give them guidance throughout the process. Female and male peer educators will work separately at times to create a program structure that address issues that are specific to their gender, but they will also work together so that they can determine potential ways to engage both genders of the issues at hand. The length of time allocated for education, number of peer educators, recruitment of educators, and other specific details would have to be determined at another time. The main goal will be to instruct peer educators and establish lesson plans for the microclinic peer education program. The specific goals of this training period will be to:

- 1) Increase HIV/AIDS knowledge of peer-educators
- 2) Create focused lesson plans that target issues relevant to the youth fisherfolk
- 3) Instruct peer-educators on how to effectively teach the lesson plans
- 4) Determine other means to educate and engage participants outside the classroom (i.e. football, games, arts, plays, community clean-ups, etc).

Once the training of the peer educators is completed they will go back to their communities. With the assistance of the BMU offices and/or any other community based groups, the peer educators will announce that this program is occurring. For interested individuals to join the program, they will need to bring 3 or 4 of their friends. Ultimately there would be teams of approximately 10-15 youths. Once these teams are formed the program will commence. The programs would likely consist of 8-12 lesson plans that will take approximately 3 weeks (during school holidays). At the end of the program, there will be a graduation ceremony, where free VCT will be offered, as well as food and entertainment. Community members can participate, with a small donation. Sponsors can also pay for advertisements during this ceremony.

It is hypothesized that if the youth play together and learn together, they will not only learn more about HIV/AIDS but also reduce stigma associated with HIV/AIDS. For example, by creating a strong social network between existing and new friends, if one individual within the network of friends is interested in attending VCT, then he/she can persuade his/her friends to join

with him/her. Furthermore, if someone finds out that they are positive for HIV, hopefully they can also rely on the same group of friends as a support group. The main goal for this program will be to not only increase the HIV/AIDS knowledge that the youth fisherfolk have, but to also decrease HIV/AIDS stigma. The more specific goals will be to:

- 1) Create a fun environment for all the participants
- 2) Engage all the community members, not just those who are participating in the program (i.e. Discussions within teams as well as between teams of different genders, ages, etc.)
- 3) Create an economically and functionally self-sustaining program