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Efficacy of HIV and AIDS education programs in the Elmina fishing community in Ghana

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One of the most important steps in HIV prevention is the provision of education to raise awareness to ensure individuals have a sufficient understanding of HIV and AIDS and encourage them to apply that knowledge. The study is based on an earlier descriptive cross-sectional study that sought a link between fishers' mobility and their risk of HIV exposure in the Elmina fishing community in Ghana. The current paper focuses on initiatives taken within the study area to inform fishers about HIV and AIDS. Additionally, it analyzes the successes and challenges of these programs and offers suggestions for improvement. Public and community durbars, town hall meetings, radio and television transmission, film creation, and the distribution of IE&C materials are the main strategies utilized to carry out HIV and AIDS education. The results suggest that few fishers in the study area take part in programs, while projects on HIV and AIDS cannot be implemented consistently and effectively due to a lack of funding and delays in the delivery of government funds. To enable organizations whose mandates relate to HIV and AIDS interventions to carry out the programs timely and fully, it is advised that government enhances its financing and ensures the timely and full release of program funds.

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Introduction

The provision of education to heighten awareness and ensure that people have adequate knowledge about HIV and AIDS and use the knowledge is a crucial step in HIV prevention (Alhasawi et al., 2019; Brewer, 2011; Kayeyi et al., 2009). It works as a reminder and triggers individual action and preparedness to act against that health problem when people have sufficient knowledge about it. According to earlier studies, most fishers in fishing communities do not use HIV preventive measures during their sexual encounters (Korankye, 2008), which increases their HIV risks. Incidentally, this has been linked to low knowledge and attitudes of fishers towards HIV and AIDS. The fisheries literature links high fisher mobility to inadequate knowledge, attitudes, and practices (Duwal et al., 2015; Korankye and Dwomoh, 2012). Due to their difficulty to access helpful information and healthcare services related to HIV and AIDS, Owoaje et al. (2011) also state that mobile workers have little understanding of HIV and AIDS. According to Duwal et al. (2015), the high mobility of fishers makes it a challenge to reach them with HIV education programs and health services. According to earlier works, fishers are a population group that frequently lacks motivation in participating in HIV education since they are always engaged in catching fish on water bodies and typically have very little time to stay at one fishing destination point before moving to another (Duwal et al., 2015; Kyei-Gyamfi, 2019). Most fishers have poor educational backgrounds, with many of them either being illiterates or school dropouts, which is another explanation given for their lack of knowledge on HIV and AIDS issues (Duwal et al., 2015).

Given that most residents of fishing communities depend on fishing and other fisheries-related activities for their livelihood, it is critical to evaluate the HIV and AIDS education strategies employed in these communities to understand the relationship dynamics between fishers' knowledge and their use of that knowledge, which is still poorly described in the body of current research on human mobility and HIV risks. This vacuum is filled by the study, which looks at HIV and AIDS education strategies employed in fishing locations by program organizers and looks for practical ways to improve program organization, participation, and reduce HIV risks among fishers. Thus, the purpose of this article is to investigate the types of program strategies employed to educate fisherfolks on HIV and AIDS and ascertain the successes and challenges of the strategies used.

Knowledge, participation, and types of HIV and AIDS education programs in fishing communities

Even though HIV is generally preventable, it has spread quickly due to ignorance. Social stigma and discrimination are the results of widespread ignorance, and misconceptions regarding the virus (Kirby et al., 2005). Therefore, knowledge of HIV and AIDS among high-risk populations, can aid in the development of strategies for prevention, and improving treatment compliance. Kirby et al. (2005) further note that the adoption of HIV programs around the world, particularly in developing countries has considerably improved HIV knowledge and practices.

Despite the achievements in spreading knowledge about the virus and disease, it appears that some population groups are still unable to correctly answer questions concerning HIV and how it spreads. Earlier works on the fisheries sector have found fishers to constitute a population group considered as having low knowledge about HIV and AIDS. For instance, in a study of several fishing communities in the Kainji Lake Basin, Oluwosegun et al. (2013) found that while 98.4 percent of the fishers were aware of HIV, they were unaware of its mode of transmission and methods

of prevention. Earlier work in Elmina in Ghana also found low knowledge among fisherfolks in Elmina (Korankye, 2008). Other prior works on fisheries have equally reported poor knowledge among fisherfolks (Duwal et al., 2015; Korankye and Dwomoh, 2012). The lack of knowledge among fishers has detrimental effects because many of them do not value primary prevention highly, and engage in risky sexual habits (Duwal et al., 2015; Korankye and Dwomoh, 2012). If fishers are adequately informed about the disease, they will be selective in their sexual partners (Teye, 2005). Additionally, most fishers have poor educational backgrounds, with most of them either being uneducated or school dropouts, which makes it more problematic to provide the necessary HIV and AIDS information to effect change in attitudes and behaviors (Duwal et al., 2015).

Given the low level of awareness among fishers, sensitization is the most effective strategy to enhance it. The fact that fishers have been recognized as a population group with very low interest in participating in HIV and AIDS education in various fishing communities suggests that this may not be an easy task to enhance their knowledge and understanding. Prior works on fishers have noted that most fishers would prefer to mend their fishing nets than take time off to educate themselves about the virus and the disease. Kyei-Gyamfi (2019) explains that a few fishers who show interest merely attend programs, stay for a brief period, and then leave for another fishing trip. It is highly challenging for fishers to participate in HIV and AIDS education and services due to their high level of mobility in their line of work (Duwal et al., 2015).

It is also very challenging to take programs to fisher communities, and Wang et al. (2013) and Owoaje et al. (2011) have attributed the lack of knowledge of HIV and AIDS because of their difficulty to get sufficient information. Many fisher communities are far from the main settlements and sometimes difficult to reach (Bogart et al., 2016; Gordon, 2005). Besides the long arduous journey, it is not guaranteed that program managers will get fishers to participate when they get to the fishing villages. Then again, due to the poor road networks, poor communication facilities, and expensive cost of fuel to convey materials and personnel by boat, many programs have not been sustained in fishing settlements (Gordon, 2005). There are also other barriers to participation in education programs, including the cost of transport, the inconvenient schedules of ferries from fishing communities to the mainland as well as living costs, if a fisher wants to travel to participate in an HIV and AIDS education or service (Bogart et al., 2016). Despite the challenge in reaching fishers, according to the literature, major efforts have been made to increase the knowledge of HIV among fishers worldwide, however, given the large number of fishers who still lack HIV knowledge, much more work is required to address the issue. There is a need for effective solutions that are well adapted to fishers' movements to improve their knowledge because poor knowledge among fishers has been linked to their mobility, and their lack of interest to participate in HIV and AIDS education programs (Ham, 2016).

Types of HIV education programs in fishing communities. In their review article, Guindo et al. (2014) note that strategies for obtaining and giving information regarding HIV and AIDS vary from country to country, and place to place. Examples of HIV education programs being implemented globally include peer education, condom promotion and usage, providing targeted information through IE&C materials, and the use of radio, and TV (Guindo et al., 2014). Few of these strategies have been discussed in the current paper.

The term “peer education” is often used to refer to an approach, a channel of communication, a methodology, a philosophy, and a strategy. Peer education often entails using individuals from one group to influence behavior in other individuals from the same group. Peer education is frequently used to try and alter a person’s knowledge, attitudes, beliefs, or behaviors to bring about change at the individual level. Numerous aspects of public health, such as family planning, substance abuse, and the prevention of violence, have benefited from peer education. However, peer education for HIV and AIDS stands out because there are so many instances of it in the most current international public health literature. Global efforts to better comprehend and enhance the peer education process and its effects on HIV and AIDS prevention, care, and support have also expanded because of this popularity. Each of these cases has helped to highlight important conversations and knowledge gaps in the field of HIV and AIDS peer education in particular geographical areas and among population groups. There have been several successes in peer education centered on HIV and AIDS in undeveloped countries, from sub-Saharan Africa and Asia to Latin America (Ham, 2016).

Communication between HIV and AIDS program organizers and community people, many of whom are illiterate, is crucial in basic information dissemination. Organizers must develop Information, Education, and Communication (IE&C) materials in local languages to facilitate illiterate populations’ understanding, and to close the communication gap. To stimulate people’s interest, IE&C materials must also be produced to mirror the lifestyles of people within the target education group (Tasah, 2021). Although during community education programs, leaflets and flyers are provided to participants on a variety of topics. Participants who receive these materials often discard them due to illiteracy and/or lack of interest. Materials can be created in official languages like English and French as well as for a specific target audience like illiterates who need to be informed about potential behavioral changes like HIV and unsafe sexual behaviors.

Since IE&C materials such as posters are inexpensive and simple to produce, messages on them can effectively reach specific target audiences. However, if suitable preparation is done in the design and preparation of the content to transmit a succinct, impactful message well-suited for its intended targets, it may not be interactive and lose its value. For instance, it is well known that most of the illiterate population in Cameroun frequently loses out on life-saving information due to their lack of literacy (Tasah, 2021). This is because only official languages are typically used to communicate essential information. When IE&C material presentations are carefully planned with relevant texts in the local language, they are successful in raising awareness among indigenous people and changing behaviors and attitudes. Rege (1963) asserts in his study that for an IE&C product to be effective, the message must be so brief and straightforward.

Radio is the most widely used medium for communication and education, and it has a proven track record of drawing listeners from all socioeconomic backgrounds, including the young and elderly, male and female, wealthy and impoverished. Despite being widely used in urban areas, fishing villages do not frequently use television as a vehicle for HIV education. According to Olowosegun et al. (2009), even though there is little inter-individual variance, radio is the most widely accepted accessible source of HIV and AIDS information for residents of fishing communities. Due to the lack of electricity in most fishing settlements, television is inappropriate.

Townhall gatherings and durbars, which are frequently employed by government organizations in Ghana, are other methods for delivering HIV and AIDS education in communities

(MoGSCP, 2020). If carefully planned with local involvement, they can sometimes serve as a major form of entertainment in communities. For instance, the MoGCSP in Ghana has contacts inside the various communities and is tasked with making all necessary arrangements. All refreshments and meals are provided by locals as part of a community participation partnership, which fosters a sense of ownership and encourages local interest and participation (MoGSCP, 2020). In a review of HIV program interventions, Guindo et al. (2014) note that strategies vary by country, suggesting that a strategy can be useful and popular depending on the area of utilization. Other strategies, which might not be as popular, include door-to-door campaigns, musical concerts, roadside shows, drama and theatre presentations, newspapers, and advertisements.

Overall, the nature of the use of strategies and approaches, the planning, design, scheduling, funding, and participation of program target groups may all affect how effective HIV and AIDS education programs are. The dissemination of information among fishers has been essential in the fight against HIV, having had a considerable positive impact on preventative efforts, uptake and accessibility of treatment, and usage of services, despite ongoing challenges.

Methods

The study was carried out in Elmina, the capital of the Komenda-Eguafo-Edina-Abirem (KEEA) Municipality, and the first European settlement in West Africa. Elmina is situated on a south-facing bay on Ghana’s Atlantic Ocean coast, 12 km west of Cape Coast (regional capital of the Central Region), on the country’s south coast in the Central Region. According to Legislative Instrument (LI) 1857, it was separated from the Cape Coast Metropolis in 1988 and elevated to a Municipality in 2008. The Atlantic Ocean (Gulf of Guinea) borders the Municipality on the south, the Cape Coast Metropolis on the east, the Twifo-Hemang-Lower Denkyira District on the north, and the Mpohor-Wassa East District on the west. With a population density of 319.8 people per square kilometer, the municipality has a total area of 452 square kilometers. Elmina, which is mostly used by inshore vessels and canoes, is the second-most important fish-landing site in Ghana. A large fish market and two landing quays are also present (KEEA, 2014).

This was a descriptive cross-sectional study conducted among 18 years or older artisanal marine water fishers engaged in forms of fishing activities (catching fish, transporting fish, repairing boats, selling fishing gear, and trading fish) in the Elmina fishing community. The study used convergent parallel mixed research methods for the data collection and analysis. Convergent parallel mixed approach was used in the study to offer a thorough analysis of the quantitative and qualitative data. Convergent parallel design involves the simultaneous collection and analysis of both quantitative and qualitative data in a single phase (Creswell and Plano Clark, 2011). Although all the approaches were carried out in the same phase of the research process, in terms of the order, the survey was conducted first, followed by focus group discussions, and key informant interviews. The observations and desk review were done concurrently.

As a result of the unknown population size of fishers in the study area, the sample size was derived by computing the minimum sample size required for accuracy in estimating proportions. In estimating the sample size of unknown population size, there is the need to consider the confidence level and confidence interval (Smith, 2013). In light of this, the researcher considered a standard normal deviation with a 95% confidence level (1.96), percentage picking a choice or response (50 percent = 0.5), confidence interval (0.05 = ±5), and reaching an estimated

Table 1 Participants of the Key Informant Interviews.

Subject	Frequency
KEEA Administration Office (Coordinating Director, Assistant Planning officer, Municipal Director of Social Welfare and Community Development & Gender Desk Officer of the Assembly)	4
Municipal Health Directorate	1
Ghana AIDS Commission	1
Non-governmental or Community-based Organizations officials	2
Department of Fisheries	2
Community members (fisher associations, and other opinion leaders of the fishing community)	20
Total	30

Source: Fieldwork, July–August 2017.

sample size of 385 respondents. The calculation of the sample size was done as follows:

$$\text{Necessary sample size} = (Z - \text{score})^2 \times \text{Std Dev}^2 / (\text{margin of error})^2$$

$$((1.96)^2 \times 0.5(0.5)) / (0.05)^2$$

$$(3.8416 \times 0.25) / 0.0025$$

$$0.9604 / 0.0025$$

$$384.16$$

$$385 (\text{Sample size}).$$

Key informant interviews (KII) were used in the study to collect data from a subset of individuals, and the subjects for the KIIs were chosen using the purposive sampling method. The purposive sampling method was used because it comprises a process for choosing research participants based on their relevance to the study's viewpoint, research questions, and justification (Bernard, 2002; Lewis and Sheppard, 2006). The KIIs are required to be carried out to cross-check and confirm the data gathered from the other qualitative and quantitative approaches. In all, 30 people participated in the KIIs. The selection of the subjects was universal, representative, and reliable as they constituted a group that possessed the best and most suitable information required for the study (see Table 1). The KIIs were carried out to explore participants' perspectives on fishing activity, issues relating to fishers' sexual behavior and its consequences, challenges encountered by fishers, and lessons learned for the future. Officials from the KEEA Assembly office, directors of key government sector departments and units, and two representatives from each of the 10 fisher associations comprised the participants in the groups.

Additionally, focused group discussions were employed to supplement the other data. The interaction between FGD participants, according to Gaiser (2008), results in more emphasis on the participants' points of view than on the researchers. Two FGDs were held with female and male fishers, with 10 participants in each group. A diverse group was chosen to adequately give information that would reflect the range of experiences regarding the study's aims. Age, residency status, and the ability to provide in-depth information needed to supplement the study questions were considered while choosing the participants for the groups.

Several visits to the landing site were undertaken to see the offshore activity firsthand. Direct assessments of the fishing community in Elmina's settlement patterns, the status of its social infrastructure and services, sleeping and living arrangements, employment opportunities, and general conditions, were accomplished by the observation. Due to the nature of the study, secondary data sources had to be employed to complement the other sources. To supplement the information in the discussion,

official documentation, published papers, journals, and other relevant literature that could be found online were utilized.

The quantitative data were examined using Statistical Package for the Social Sciences (SPSS). The SPSS software package was useful for data entry and for creating the tables that were used to present the quantitative findings. To interpret and analyze the quantitative results, the author additionally used descriptive (frequency, percentage) and inferential (Chi-square test) statistics. Bivariate analysis was conducted to determine the association between independent and dependent variables. Thematic analysis was also used to examine the qualitative data. A report on the qualitative features was created using organized material from the interviews and focus group discussions. The qualitative data were analyzed utilizing five main processes. First, the author transcribed the raw data for both the KIIs and FGDs. Second, the data were read through copiously to familiarize with the data gathered from the KIIs and FGDs. After examining the data, codes were given. The next step involved categorizing the data from the KIIs and FGDs according to the codes (themes). Writing a report on the results was the last step. Narrative descriptions have also been made to explain relationships in the data presented, with statements by subjects in the FGDs and KIIs also presented as quotes in some portions to enrich the analysis. The study was deemed to have sensitive content and required ethical approval since some components of it were sensitive and bordered on the subjects' right to privacy. Considering this, ethical approval was obtained.

Results and discussion

Socio-demographic characteristics of the fishers. According to Table 2, the researcher looked at the socio-demographic characteristics of the 385 fishers who took part in the study in terms of age, sex, marital status, educational background, religion, mobility status, and the type of fishing activity engaged in. The participants were split more than evenly across sexes, with 51.4 percent being women and 48.6 percent being men. Most female fishers in the survey conducted show that women actively participate in fishing, which has generally been perceived as a male-dominated activity (Caldwell et al., 1997; Odotei, 1990). Regarding the age of the respondents, Table 2 further indicates participants aged 34–44 as the highest proportion (29.9 percent) of the study participant, followed by those falling within the 25–34 age group (24.2 percent) and <25 age group (22.3 percent). The respondents who reported being 65 years and older made up the smallest percentage (3.6 percent). The information in Table 2 also shows that 76.4 percent of the study participants were those under the age of 35. This supports past studies that claim the fishing industry attracts younger, stronger people who can do physically demanding duties. It also implies a higher level of youth participation in fishing in the research area (Caldwell et al., 1997). Table 2 further shows that 54.3 percent of the participants in the

Table 2 Socio-demographic characteristics of respondents.

	Frequency	Percent
<i>Sex</i>		
Male	187	48.6
Female	198	51.4
<i>Age</i>		
<25	86	22.3
25-34	93	24.2
35-44	115	29.9
45-54	50	13.0
55-64	27	7.0
65+	14	3.6
<i>Mobility status</i>		
Mobile Fisher	209	54.3
Non-Mobile Fisher	176	45.7
<i>Education</i>		
No Education	129	33.5
Middle/JHS education	207	53.8
Secondary/vocational and higher	49	12.7
<i>Religion</i>		
Islam	21	5.5
African Traditionalist	19	4.9
No religion	29	7.5
Christianity	316	82.1
<i>Marital status</i>		
Never married	112	29.1
Cohabiting/Informal/Consensual	34	8.8
Married	180	46.8
Divorced/separated/widowed	59	15.3
<i>Type of fishing occupation</i>		
Fish Catch Group	98	25.5
Post-harvest Group	149	38.7
Maintenance and Repair Group	55	14.3
Porters and Errand Group	83	21.6

Source: Fieldwork, July–August 2017.

study were mobile fishers, as opposed to 45.7 percent who were not. Mobile fishers refer to respondents reporting to have traveled from Elmina to other fishing communities to engage in any fishing activity in the last 12 months before the study. According to Table 2, 53.8 percent of respondents had completed middle or junior high school, 33.5 percent had no formal education, and 12.7 percent had completed both higher education as well as secondary/vocational school. The findings show a high percentage of illiteracy among fishers in the study area, which is an expected finding that is consistent with past research on artisanal marine fishing (Duwal et al., 2015). Christians made up the largest religious group (82.1 percent), while followers of African traditional religion made up the smallest group. Respondents who reported being married made up 46.8 percent of the total, followed by those who had never been married (29.1 percent), those who were divorced, separated, or widowed (15.3 percent), and finally, those who were cohabiting/informal/consensual (8.8 percent). According to Table 2, the participants who reported participating in post-harvest activities made up the largest group (38.7 percent), followed by those who were fishing (25.5 percent), fish porters (21.6 percent), and boat (canoe) repair and maintenance workers (14.3 percent).

Participation in HIV and AIDS Educational Programs. The study asked respondents if they were aware of any organizations that have run HIV and AIDS education programs in the study area in the 12 months before the survey. A proportion of 54.5 percent of respondents stated they were unaware of these programs, compared to 45.5 percent who said they were. In the

Table 3 Knowledge of HIV education programs in the last 12 months.

Response	Sex (percent)		Total
	Male	Female	
<i>Knowledge of any HIV education in community in the last 12 months</i>			
Yes	43.9	47.0	45.5
No	56.1	53.0	54.5
Total percent	100.0	100.0	100.0
Total N	187	198	385
<i>Agency/organization implementing HIV education program</i>			
Local Radio Station	47.6	35.5	41.1
Municipal Health Directorate	19.5	36.6	28.6
Ghana AIDS Commission	20.7	18.3	19.4
NGO/CBO	8.5	4.3	6.3
Fisheries Department	3.7	5.4	4.6
Total percent	100.0	100.0	100.0
Total N	82	93	175

Source: Fieldwork, July–August 2017.

context of the study, community participation in HIV and AIDS education programs refers to attending, listening to, viewing, or reading messages created to stop the spread of HIV and enhance sexual and reproductive health care. Raising awareness, prevention, changes in policy and law, impact mitigation, advocacy, care, and support are all recognized as essential elements of community participation by UNAIDS (1997). From the results, females were more aware of HIV and AIDS programs than males were. In Table 3, local radio stations (41.1 percent) were the most well-known education organizations that the respondents were aware of. This is followed by the Municipal Health Directorate (28.6 percent) and the Ghana AIDS Commission (19.4 percent). The agencies with the lowest percentage rate were NGOs/CBOs (6.3 percent), and the Fisheries Department (4.6 percent).

Participating in HIV education is very important for the campaign against the virus because it gives people knowledge about how the virus is transmitted and how to prevent it. A third (32.2 percent) of respondents reported having participated in HIV education programs in the last 12 months before the survey (see Table 4). However, 67.8 percent of respondents said they did not participate in any such programs during the period. A higher proportion of females (41.9 percent) than males (21.9 percent) indicated that they participated in such programs. The respondents who reported that they did not participate in any HIV education programs were asked to explain why they have not done so. The reasons given include a lack of interest in engaging in HIV education programs (49.8 percent), a lack of time for availability due to travel or work schedules (44.4 percent), and the venue of the programs not suitable for their participation (5.7 percent). The results corroborate IOM/UNAIDS's (2006) argument that some mobile workers abstain from HIV education programs because they lack interest in doing so, lack the time, or are unavailable to participate.

According to information obtained from an interview with an opinion leader in Elmina, most of the IE&C materials are written in English, whereas the HIV and AIDS programs that are typically arranged have foreign content. He identified the following reasons for his lack of interest in HIV programs:

The programs are not at all engaging. They come here from their offices to talk and scare us with the illness. The way they explain the illness gives the impression that you are to blame for contracting it. As a result, many individuals here

don't show any interest and would much rather listen to the radio or watch TV programs on HIV. Roleplay, comedy, and documentaries that focus on the everyday life of fishers should be included, in my opinion. That is how you convey to people that they too are affected by the disease.

The statement above explains that if people find programs are top-down instead of bottom-up, they may find them unappealing, and not participate in them (Campbell et al., 2014). This mirrors Werner and Sanders (1997) argument that bottom-up programs have strong community attraction and are more likely to have better participation of community members when employed. The statement also implies that before participating in an HIV educational program, people evaluate its content.

Additional interactions provided more information about the poor participation rate in HIV education programs among the fishers. For instance, during the KII, a representative of the Municipal Health Administration stated that it is simpler to have female fishers participate in programs than male fishers. She clarified:

The male fishers' primary task is fish catching, which makes them extremely mobile. Once more, after an excursion, they must set up their fishing net for the following one, leaving them little time for other activities such as taking part in HIV programs. Because most male fishers view such

programs as trivial and unimportant, there is a general lack of interest.

In addition to the itinerant nature of their work, the representative of the Fisheries Department (FD) emphasized that fishers are also averse to change. He explained:

This community's fishers are a complex group of individuals with a peculiar mindset who are particularly resistant to change. The main factor contributing to their difficulty is that many are illiterate and ignorant.

The Fisheries Officer's remark clarifies why it can be challenging to persuade certain fishers to take part in HIV education programs. The statements also provide program planners with some guidance for developing methods that will allow them to involve and engage participants in current and future programs.

Types of HIV and AIDS Programs held. The study examined the methods and plans adopted by several departments and agencies to carry out HIV education in the study area. To do this, program managers from various were asked to provide information on the types of programs they run to inform or sensitize the locals in Elmina and the other fishing communities. The strategies mentioned during the interactions are listed in Table 5. The list of organizations in Table 5 includes both public and private organizations, indicating that both public and private actors are involved in the study area's ongoing HIV education programs.

Table 4 Participation of respondents in HIV Education and reasons for not participating.

Response	Sex (percent)		Total
	Male	Female	
<i>Participation of respondents in HIV education programs in the last 12 months</i>			
Yes	21.9	41.9	32.2
No	78.1	58.1	67.8
Total percent	100.0	100.0	100.0
Total N	187	198	385
<i>Reasons for not participating</i>			
Not interested in HIV programs	39	63.5	49.8
Lack of time and unavailability due to time/travel schedules of work	55.5	30.4	44.4
Venue not suitable	5.5	6.1	5.7
Total percent	100.0	100.0	100.0
Total N	146	115	261

Source: Fieldwork, July–August 2017.

Ghana AIDS Commission. The Ghana AIDS Commission (GAC)'s Central Regional office was contacted during the KIIs. The GAC was founded in 2002 under the leadership of His Excellency the President of the Republic of Ghana. It is a supra-ministerial and multi-sectoral organization. It has the highest policy-making body on HIV and AIDS, it provides effective and efficient leadership in the coordination of all programs and activities of all stakeholders through advocacy, joint planning, monitoring, and evaluation for the eventual elimination of the disease. At the GAC, the Program Coordinator at the Technical Support Unit (CTSU) was interviewed. Questions were asked to understand the nature of GAC's education on HIV and AIDS. The CTSU informed the author and his team that, the GAC holds advocacy meetings, townhall campaigns, and durbars to sensitize the fisherfolks in and around the Elmina fishing community on HIV and AIDS. The CTSU intimated that the organization hosts regular series of stakeholder meetings with representatives from government agencies, civil society organizations, traditional authorities, and district assemblies at the institutional level. The purpose of these meetings is to share knowledge and experiences

Table 5 HIV and AIDS education strategies of institutions.

Institution	Type of strategy
Ghana AIDS Commission (GAC)	Community health outreach, radio and TV appearances, distribution of IEC materials
Fisheries Department	Health education and inspection of landing sites
Municipal Health Administration	Public and community education programs, counseling and testing and provision of ART services, condom distribution, distribution of IEC materials
Department of Community Development	Public and community education programs, radio and TV appearances
Department of Gender of the Ministry of Gender Children and Social Protection (MoGCSP)	Public and community education programs, radio and TV appearances
Foundation Builders Kids Club (FBKC)	Public and community education programs, radio and TV appearances, film production
Human Service Trust Foundation (HSTF)	Public and community education programs, radio and TV appearances condom distribution and counseling, distribution of IEC materials

Source: Fieldwork, July–August 2017.

in HIV and AIDS interventions and improve the knowledge and skills of organization representatives to prepare them to engage in HIV education outreach programs in their communities. The officer explained that the stakeholder engagement draws from the principles of good participatory practice, which is not only effective but also efficient as it brings together experts from government organizations and civil society organizations with a shared goal to discuss and share experiences that are then applied in their various HIV and AIDS education activities (MacQueen et al., 2012). He explained in the past, this strategy had been very effective, however, in recent times the GAC has been facing financial difficulties and affecting the process. He added that the reason only one meeting had been organized at the time of the study, was because of a lack of funds. The CSTU also noted that the GAC occasionally works with other organizations during public events and speaks to the public about HIV transmission, prevention, and safety precautions. Again, it was gathered that the public events which were to be conducted on a regular monthly basis, have not been regular due to budget constraints. To address some of the challenges, the CSTU indicated the GAC make alternative arrangements with donor agencies to support some of the educational programs, to supplement the shortfall of funds from the government.

Asked to mention their most effective strategy in the last ten years, the CSTU reported that it launched a program in 2011 called the “Community HIV Education Enhancement Package”, which led to the installation of condom vending machines (CVMs) at vantage points in the Elmina fishing community, and making condoms easily available, affordable, and accessible. The use of CVMs is not novel and noted utilized successfully in other African and developing countries (Tull, 2017). In Kenya, it has been successful in addressing discrimination and stigma regarding young people accessing contraceptive products and services (Waweru, 2022). When the author asked the CSTU what the GAC would have done differently with the CVM project if the organization were to have a second look at its implementation, the CSTU responded that the GAC should have thought about putting the CVMs in places where people would not be able to see them being used by persons they know. This is important because many users of the CVMs have expressed reservations about privacy issues. This supports Adiku’s (2017) claim that African culture places a great value on keeping sexual matters private, thus, it is not unexpected that people are reluctant to use CVMs in public settings. Owing to this, the CSTU reported that the GAC will in the future consider the best location in the communities where some level of confidentiality and privacy can be assured when placing the machines, even though the community is densely populated and has overcrowded environs.

The CSTU noted that the GAC has been running a Peer Education for Behavioral Change program in Elmina, Abirem, and Komenda, which has proven to be yielding positive results. Asked why he felt the program was successful, he explained, unlike a couple of years ago when fishers shy away from testing, in recent times, more fishers (especially males) express the willingness to test to find out their HIV status. He expressed ‘... this an in an indication of the effectiveness of our strategies and methods employed to carry out the peer education intervention.’ The CSTU’s remarks conform to reports of the World Health Organization (2014) and GAC (2015), which underscores the importance of counseling and testing is regarded as the starting point for all HIV programming. Thus, fishers agreeing to know their HIV status is an important indicator of a positive step for regulating the fishers’ sexual behaviors in the future (GSS, 2015). It was also gathered from the interview that during some public events, community members willingly seek out HIV services, which is another sign of the success of the methods and strategies

used to carry out HIV education in the local communities. The CSTU asserts that several individuals in the communities continue to participate in unsafe sexual behaviors despite efforts to raise HIV awareness.

One of the biggest challenges mentioned by the GAC is the high rate of illiteracy among fishers, which makes it difficult for most of them to read IE&C materials. The other challenges were the lack of participation of male fishers in the education programs and insufficient financial resources which tend to result in long breaks in program implementation.

Municipal Health Administration (MHA). The Municipal Health Administration, which is the health outfit under the Ministry of Health (MOH) in the Central region was also interacted with. The HIV Education Programs Coordinator (HEPC) for the MHA in Elmina was the contact person to report on their activities. Reporting on their overall education programs, the HEPC indicated that the capability to provide counseling, testing, and Anti-Retroviral (ART) services is among the MHA’s key strengths in terms of the services it offers. According to the HEPC, the health administration also runs several health education and awareness-raising campaigns, as well as occasional home visits, in the fishing community of Elmina and other nearby settlements.

The HEPC reported that it also distributes IE&C materials on HIV and AIDS in fishing communities. The MHA also complained that most of the IE&C materials they use from their programs were produced by the Ghana Social Marketing Foundation (GSMF) in English. The HEPC mentioned that one of their biggest challenges is the low literacy and education among the fishers. She explained many of the fishers who lack formal schooling, are unable to read the written materials. This claim is mirrored in prior work (Tasah, 2021). The HEPC informed the author that they utilize radio to inform and discuss issues on HIV and AIDS to the people in the community in the local Fante language to enable both literate and illiterate listeners to understand the messages transmitted. She explained that the radio program has a phone-in segment, which allows callers to ask questions regarding the issues, and explanations given on all problem areas of a particular broadcast. The biggest challenge of the MHA has been inadequate funding for its outreach programs.

Fisheries Department. The Fisheries Department (FD) is the implementing agency of the Ministry of Fisheries and Aquaculture Development. The interview was led by a Principal Fisheries Officer (PFO). Asked to report on their educational programs, PFO stated that throughout the first quarter of the year, none of the interactions they have had with fishers featured HIV issues. He indicated that it is not the FD’s responsibility to inform fishers about HIV and AIDS when asked why the department has not carried out any HIV and AIDS education programs. He indicated:

Even though we have a closer relationship with the fishers, we do not want to be accused of carrying out the mandate of other government agencies. In addition, we lack the funding to carry out projects regarding HIV education in addition to the work we already perform.

The PFO stated that the FD does not currently have any ongoing HIV and AIDS education program in the study area. This information makes it unclear what the FD is doing to address the poor knowledge of HIV and AIDS among fishers. Since it highlights a gap in the use of major national institutions charged with responsibility for the development and management of the nation’s fisheries, the absence of such an intervention has policy implications.

Foundation Builder's Kids Club (FBKC). The FBKC was the first NGO to be contacted to acquire information on HIV and AIDS education. The KII was done with the Programs Director (PD) of the organization. During the interview, the PD informed that the FBKC has been promoting gender mainstreaming and child rights since 1990 when it was established in the Region. One of the biggest achievements of the FBKC regarding HIV and AIDS education is the fact that the NGO began with child rights activism and eventually produced radio programs to inform people about young people's sexual and reproductive rights, and STIs. The PD claims that several young fishers are now aware of the dangers of having reckless sexual behavior, which has caused many young fishers to adjust their sexual behaviors. The PD hinted that since a major portion of the young fishers now utilizes condoms, changes have taken place in their sexual lifestyles. The FBKC reported that it also employs film production as part of its advocacy programs to spread varied messages on HIV and AIDS. The fact that some Elmina fishers still think that AIDS is the consequence of curses, which the PD identified as their worst challenge, shows how entrenched myths and beliefs still are among some groups of fishers in the community. He expressed that the FBKC will continue to use the radio programs to enhance knowledge in the fishing community. The NGO's inability to get sufficient funds to carry out additional educational programs emphasizing sexual behavioral change among this group of sexually active fishers raises serious concerns.

Human Service Trust Foundation (HSTF). The Human Service Trust Foundation (HSTF) was also contacted and interacted with. It is an NGO, which has since 2008 been engaged in public education on HIV and AIDS in the Central Region. The HSTF indicated that since radio is the most widely preferred communication channel, they have utilized it for all their awareness-raising programs. For example, it was noted that officials of the NGO are frequently invited to participate as panel members on different FM radio stations in the Central Region to communicate and broadcast messages on HIV and AIDS.

The HSTF's program managers reported that fishers and other community members congregate at the fish landing site for durbars and other gatherings. The project managers indicated that their use of community durbars to raise awareness has also had a strong trickle-down impact on the sexual behaviors of the fishers. It was noted that on national holidays such as National AIDS Day, the durbars are used to encourage people to get tested. This initiative has lessened some fisher's anxiety about getting tested, though more work needs to be done to increase the number of fishers who participate in HIV testing. The interaction HSTF revealed that many fishers in fishing areas have HIV-denying beliefs. According to project officers, most fishers view their occupation as dangerous and are therefore unconcerned with the AIDS epidemic. This claim suggests that community members do not view HIV as a concern since they believe that fishing is a riskier job than the illness, a viewpoint that Westlund, Holvoet, & Kébé (2008) and Opio et al. (2013) have previously reported. This implies the necessity of enhancing HIV and AIDS education using suitable, innovative techniques that would motivate more community members to participate. When asked to list the challenges they had encountered while working with the fishing community, project officers identified finance as the major obstacle.

Department of Gender and Department of Community Development. The author also interacted with two other government agencies: the Department of Gender (DOG) of the Ministry of Gender, Children and Social Protection (MoGCSP), and the Department of Community Development (DCD) of the

Ministry of Local Government, Decentralization and Rural Development. Interaction with representatives of the DOG and DCD revealed that despite the two departments' commitment to HIV education in Elmina and the surrounding communities, they did not receive any budgetary support between January and July 2018 to enable them to carry out any outreach activity in the fishing communities. This indicates that no HIV and AIDS education had taken place in the study area throughout the period of reference. Program officials at the two departments reported that they are both financially dependent on funding from the government and unable to function until they receive their budgetary allocation. This financial incapacity is common in government agencies in Ghana and tends to affect program design, implementation, and management (MoGCSP, 2020).

Conclusions

The study's findings show that most participants were unaware of any institutions that had run HIV and AIDS education programs in the study area over the previous 12 months. The most well-known education organizations that respondents were aware of, according to the results, are local radio stations, the Municipal Health Directorate, the Ghana AIDS Commission, NGOs, and the Fisheries Department among the other organizations that provided information. According to the findings, most respondents prefer listening to HIV programs played on local radio stations over gatherings where people can hear HIV and AIDS messages.

Most participants in the study did not take part in any HIV education programs in the last 12 months, which suggests that few fishers in the study area take part in HIV education programs. According to the study's findings, females are more likely than males to participate in HIV programs. Lack of interest, respondents' busy schedules, or inability to attend due to travel are some reasons that prevent most fishers from participating in HIV and AIDS programs. Another reason is that the location of the programs is usually not suitable for participation. The findings reflect earlier findings that some mobile workers fail to participate in HIV educational programs due to their lack of interest (IOM/UNAIDS, 2005), which serves as the primary reason for the nonparticipation of fishers in HIV and AIDS programs organized in the fishing communities.

A portion of the fishers in Elmina may not be aware of the significance of HIV and AIDS education, which would explain their continued involvement in many sexual relationships and other risky behaviors, according to the results of the interactions with the FBKC. Also, some fishers in Elmina still think that curses are the cause of the spread of HIV. The misunderstandings and misinformation may also be a result of the low involvement in community education and sensitization activities, necessitating an increase in HIV and AIDS education using appropriate, innovative strategies that would motivate more community members to participate.

The findings indicate that both government and non-government institutions are providing HIV education in the study area. Public and community durbars, town hall meetings, radio and television transmission, film creation, and the distribution of IE&C materials are the main strategies utilized to carry out HIV and AIDS education. From the result, though both the government and non-government agencies reported funding challenges, the government agencies have additional constraints of facing the untimely release of limited funds allocated by the central government for activities concerning HIV and AIDS. Despite the agencies' inclusion of HIV education in Elmina and the neighboring villages in their work plans, most of them are unable to carry out their plans due to financial limitations. For instance, the Department of Gender, and the Department of Community Development did not receive any budgetary support

between January and July 2018 to enable them to carry out any outreach activity on HIV and AIDS that was planned for the period. The inadequate and untimely releases of funds affect the consistency and effective implementation of planned activities in fishing communities.

Other reported obstacles include insufficient IE&C materials for implementing community outreach programs. The results also indicate that because most available IE&C materials are written in English and need translation, a portion of the fisher community in the study area is unable to read and understand them. There is a considerable possibility that many fishers in highly illiterate fishing communities will not understand the messages contained in the IE&C materials and will not put those ideas into practice. It is detrimental to use IE&C materials that intervention target groups cannot understand or use. The results also show that the content and packaging of programs may not inspire people to attend or deter people to participate if they find them unsuitable, unattractive, and not entertaining. In effect, people assess the contents of programs before participating in them. It is crucial therefore to evaluate the suitability of programs before implementing them.

The study's findings provide some encouraging evidence for the viability of the methods used to inform fishers about HIV and AIDS. In the fishing community of Elmina, the GAC's placement of condom vending machines (CVMs) in specific locations, for instance, has had a good impact on condom availability, affordability, and accessibility. This implies that the adoption of CVMs in other high HIV prevalence areas might be successful in increasing condom availability. As evidence of the effectiveness of the techniques and approaches utilized to carry out HIV education in the local communities, the GAC and HSTF also noted an increase in the number of community members eager to seek HIV services and get their HIV status checked.

Recommendations

Program organizers of HIV and AIDS education need to come up with better strategies for addressing populations whose participation in HIV education interventions is constrained due to the highly mobile character of their work schedules. Since they frequently leave their existing residence due to their busy schedules, the best technique is to develop program interventions that will be brought to them rather than anticipating them to seek out such programs. Due to the mobile lifestyle of fishers, cutting-edge communication tools like mobile phones and text messaging, which can be used while traveling, could be crucial tools in the fight against HIV and AIDS among this segment of the mobile population. Going forward, the strategies to be employed must be the kind that is able to stimulate fishers' interest so they can allocate time for participation. Program planners are recommended to incorporate documentaries that focus on the everyday lives of fishers as well as entertainment education through drama and role-playing. This might end up being more appealing to fisherfolks than using materials that are unrelated to their actual way of life.

Since radio and TV are the most widely used media outlets among Elmina's fisherfolk, more radio and TV programming on HIV and AIDS will be more effective in delivering messages to a wider audience of fisher folks. NGO professionals, for instance, cite radio communication as their preferred method of getting their message out to fishers. This is due to its broader appeal and the fact that many individuals can own it. Radios, as opposed to TVs, are accessible. People without radio sets could probably use them on their phones. The lack of enthusiasm among fishers in taking part in HIV and AIDS education initiatives is one of the study's main results. Since in Elmina, radios are always playing in

homes, businesses, bars, community centers, taxis, and commuter vehicles, even someone who is not interested in HIV programs or does not own a radio is likely to hear an advertisement on the local radio.

The results show that most IE&C materials utilized are those created by the GSMF, which are written in English and are difficult for most fishers to read and understand, considering the high illiteracy rate in the study area. As a result, it is crucial to offer appropriate IE&C materials that can serve as reminders and raise the essential knowledge to change the sexual behaviors of the intended targets. It is also recommended that strategies be developed to create IE&C materials in the local languages so that fishers who can read the local languages but not English can take benefit from them. According to prior findings, the inclusion of visuals in the messaging could be utilized to complement textual and spoken instructions to improve attention, comprehension, recall, and adherence to messaging (Houts et al., 2006).

A benefit of using CVMs is that the condoms they give are of higher quality and cost less than those purchased from pharmacies, shops, hotels, and bars. Young people are also fond of CVMs, and if promoted successfully, they will use them frequently. The devices need to be situated in areas where people will not see them uncomfortable to use. Placing CVMs in public areas is likely to discourage people from utilizing them since African culture places a high priority on keeping sexual matters private.

The Department of Fisheries does not currently have any programs that aim to inform fisheries workers about HIV and other STIs. The necessity for the Department to establish HIV and AIDS education programs that target fishing communities means that having a program in place to hold periodic sensitization and orientation on HIV and AIDS is urgent and of utmost importance. The budget for all intended HIV and AIDS programs should be included and ringfenced in the annual plans for them to be carried out on a regular and consistent basis in the Department's annual work schedule.

Projects on HIV and AIDS cannot be implemented consistently and effectively due to a lack of funding and a delay in the delivery of government funds. To enable organizations like the GAC, the MMDAs, and other government departments whose missions relate to HIV and AIDS interventions, to carry out the programs timely and fully, it is advised that government enhance its financing and ensure that monies are released in full and on time.

Data availability

The initial research for this paper is based on the Ph.D. work of the author 'Mobility and HIV risk among fishers in Elmina fishing community in the Central Region of Ghana'. The dataset is in SPSS format and can be made available on request. The study used both quantitative and qualitative tools for collecting data and can be forwarded as additional material upon request.

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Competing interests

The author declares no competing interests.

Ethical approval

Since some aspects of the present study bother the privacy of subjects, it was deemed sensitive in content and required ethical clearance. In view of this, ethical clearance was sought from the Ethics Committee for the Humanities (ECH) at the University of Ghana, and approval was granted by the Committee in April 2017 to commence fieldwork. The research was conducted in accordance with the principles of the declaration of Helsinki.

Informed consent

During data collection, written or oral consent was obtained from all participants, and for each interview session, steps were taken to explain the purpose of the study. All interviews were held at the convenience of the participants to ensure privacy and confidentiality.

Additional information

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