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Understanding the drivers of preferential migration of people living with HIV to fishing communities of Lake Victoria in Uganda

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ABSTRACT

Fishing communities around Lake Victoria have among the highest burdens of HIV globally. Growing evidence suggests that high HIV prevalence is partially due to selective migration of people living with HIV to fishing communities. However, the reasons for this preferential migration are unclear. We recruited 60 men and women for qualitative in-depth interviews (30% living with HIV; 70% recent migrants of unknown HIV status) from seven Ugandan fishing communities. Interviews discussed mobility histories and the social context surrounding migration. Interviews were audio-recorded, transcribed, and translated. A version of the 'Push-Pull' theory of migration helped structure a conceptual thematic framework for data analysis. Unfavourable conditions related primarily to stigma, social discrimination, humiliation, rejection or HIV labelling, and violence, induced individuals to leave their home communities. Factors which eventually resulted in migration to fishing communities included anticipating less HIV-related stigma and a safe, friendly environment that accommodates all people. Access to healthy food (fish) and the perceived availability of community-based HIV care services were also attractions. We found that stigma is the major social phenomenon shaping preferential migration to fishing communities in Uganda.

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Introduction

Fishing communities on the shores of Lake Victoria in Uganda have high levels of HIV prevalence, ranging from 21% to 40% (Asiki et al., 2011; Burgos-Soto et al., 2020; Kiwanuka et al., 2013; Kuteesa et al., 2019; Opio et al., 2013). While rates of HIV incidence have been declining in recent years (Musumari et al., 2021), both prevalence and incidence in fishing communities remain higher than in the general population (Kapesa et al., 2018; Panga et al., 2022; Vitalani & Herrerros-Villanueva, 2018).

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High HIV prevalence in fishing communities has been attributed to the risky lifestyles of fisherfolk, including multiple sexual partners, inconsistent condom use, alcohol and drug use, commercial or transactional sex, hyper-masculinity among fishermen, and high mobility (Asiki et al., 2011; Chang et al., 2016; Kwenya et al., 2010; Lubega et al., 2015a; Nakamanya et al., 2022; Seeley & Allison, 2005). Disregarding personal safety has been linked to the physical risks and uncertainties of fishing as an occupation (Allison & Seeley, 2004). Previous studies have suggested that HIV transmission within fishing communities may lead to HIV transmission to the general population, driving regional epidemics (Kamali et al., 2016; Kiwanuka et al., 2014). However, there is growing evidence from viral phylogenetic and migration studies disputing this hypothesis. Instead, these studies suggest that people living with HIV, particularly women, are more likely to migrate from geographically diverse populations and concentrate in fishing communities (Bbosa et al., 2019; Grabowski et al., 2020; Okano et al., 2018). Grabowski et al. (2020) found that the prevalence of HIV was higher among persons who migrated to Ugandan fishing communities compared to individuals who migrated elsewhere, regardless of place of origin. This selective migration thus contributes to higher HIV prevalence in fishing communities.

However, it is unclear what drives this preferential migration of individuals living with HIV to the fishing communities. Camlin et al. (2014), when looking at the different typologies of female migrants in Kisumu, Kenya, found that widows who were disinherited after the death of their husbands often migrated to Lake Victoria landing sites to work in the fishing industry. However, to date, no study has conducted a comprehensive examination of potential reasons for this pattern of migration.

In this study, we explored the socio-structural context of migration of people living with HIV to high prevalence fishing communities of Lake Victoria in order to gain a deeper understanding of the underlying factors that drive this preferential migration. Understanding the drivers of preferential migration is important to inform appropriate HIV prevention and care efforts among Lake Victoria fishing populations.

Theoretical framework

To help guide our analysis and understand why people migrate and how they chose where to go, we adopted a modified version of the push and pull theory of migration. This theory dates back to the late 1930s when Heberle (1938) established that reasons for human migration included both factors that caused people to leave as well as factors which attracted them to a new place. That work drew on Ravenstein's 'laws of migration' (Grigg, 1977) which set out laws or hypotheses on the importance of factors which led to people migrating. The push-pull theory has continued to evolve: Bogue and Thompson (1949), for example, focused on external factors that are key in determining the choice of flow direction (destination). Everett Lee (1966) systematically summarised the information on the 'push-pull' theory, suggesting that migration tended to occur because of unfavourable factors in a place that push individuals or groups to move to other places with better conditions. Since then, the 'push-pull' theory has been widely used to analyse factors and mechanisms shaping population migration and reframed and developed in different ways. We draw on the work of Carling and Talleraas (2016) who reframed the 'push-pull' theory to distinguish between 'root causes' of migration 'the social and political conditions that induce departures' and 'drivers of migration' a term which they say 'encompasses the mechanisms that eventually produce migration outcomes' (p. 6). This reframing provides a more nuanced version of the push-pull dichotomy (which has been criticised for being simplistic and deterministic (these criticisms are summarised by Van Hear et al., 2018)) allowing for the consideration of structural factors which both induce and drive migration.

We considered the factors that induce departures and the drivers that produce migration outcomes, to develop a description of the reasons why people living with HIV migrate from their home communities, and how and why they choose to migrate to fishing communities on Lake

Victoria. Synthesising this framing with migration models which posit that migration can be prompted or driven by the desire to avoid social humiliation (Fan & Stark, 2011), we considered migration as a possible solution to avoiding association with, or exposure to a social group/community, because of social humiliation or stigma. To expand on this area, we drew on the work of Earnshaw and Chaudoir (2009) to unpack the concept of 'stigma'. In their HIV Stigma Framework they identify the mechanisms of prejudice, stereotypes and discrimination which, in different ways, impact the ways in which people who are not living with HIV exercise power over people living with HIV:

Through the mechanisms of prejudice, stereotypes, and discrimination, the existence of a stigma can impact a variety of psychological, behavioral, and health outcomes for both people who are HIV infected and people who are uninfected. (p. 1162).

For people living with HIV the mechanisms of enacted, anticipated and internalised stigma were defined by Earnshaw and Chaudoir (2009) in the following way:

Enacted stigma refers to the degree to which PLWHA [people living with HIV and AIDS] believe they have actually experienced prejudice and discrimination from others in their community. Anticipated stigma refers to the degree to which PLWHA expect that they will experience prejudice and discrimination from others in their future. Internalised stigma refers to the degree to which PLWHA endorse the negative beliefs and feelings associated with HIV/AIDS about themselves. (p. 1163).

This conceptual framing of stigma helped us to examine how the different mechanisms of stigma serve both as root causes and drivers of migration.

Materials and methods

Study design and setting

This cross-sectional study used qualitative methods to understand factors that drive preferential migration of people living with HIV to high prevalence Lake Victoria fishing communities. The study built on earlier findings from the PANGEA-HIV consortium (<https://www.pangea-hiv.org/>) which revealed viral migration from the general population to fishing communities (Bbosa et al., 2019; Ratmann et al., 2020). The study communities are fish landing sites situated along the shores of Lake Victoria with the main economic activity focusing on fishing. In addition to both sites being homes to large populations of people involved in fishing, fish processing and trading, both included a number of different service providers for the fishers: people working in shops, restaurants, bars and as sex workers (Asiki et al., 2011; Burke et al., 2017; Seeley et al., 2012)

Researchers from the Medical Research Council/Uganda Virus Research Institute and London School of Hygiene and Tropical Medicine (MRC/UVRI & LSHTM) Uganda Research Unit (site 1) and Rakai Health Sciences Program (RHSP) (site 2) led the study. Both institutions are members of the PANGEA-HIV Consortium and have established cohorts/populations in the fishing communities of Lake Victoria in districts neighbouring the Lake. These sites are under longitudinal surveillance and serve as sources for HIV sequence data.

Study participants, sampling and data collection

The study participants were adult residents (aged 18 and above) in seven fishing communities of Lake Victoria (two in Kyotera and five in Masaka districts). Participants were identified through prior phylogenetic analyses as individuals who were living with HIV and from general populations moving into the Lake Victoria fishing communities, or who were recent migrants who had lived in the fishing community for not more than two years. Sixty participants were selected, 30 from each site. Thirty percent (20) were identified as individuals already living with HIV from phylogenetic analyses. The sample was purposively selected to include people of different age, sex and location. This purposive sample helped to inform selection of the

remaining 70% (40) of participants. The 70% were people in the community who shared similar characteristics to the 30%, including age, sex, living in the same residential area, and being recent in-migrants. Given HIV prevalence rates in fishing communities, it was anticipated that many of these individuals would also be living with HIV; however, we chose not to sample based on HIV status for the remaining sample (the 70%) to enhance confidentiality around HIV status and to ensure that when the study was explained in the community we could make it clear that this was not a study specifically targeting people living with HIV. Interviewers were blinded to the HIV status of participants, when known, although HIV status was known to the principal investigators (SN and NN) (due to previous participation in the phylogenetic study).

Data collection

Data were collected from May to August 2021. A single in-depth interview was conducted with each participant. During interviews, we collected information on participants' mobility history and the social context that led to their migration to Lake Victoria fishing communities as well as information on the use of HIV prevention and treatment and care services during and after the migration process. Experienced social science research assistants interviewed the participants. Interviews were conducted in the fishing communities, either in the participant's home or another convenient place safe for both the participant and interviewer. Each interview lasted for an average of one hour and the interviews were audio-recorded. All interviews were conducted in Luganda (the local language), using a translated interview guide.

Data management and analysis

Interview transcripts were produced from the audio-recorded interviews, marked with unique identification numbers, with names and specific location information removed to protect confidentiality. At each site, the transcripts were stored on password-protected computers and backed up on a secure server with restricted access for only the study teams.

After transcription, the principal investigators read through each interview and discussed the findings with research assistants/interviewers to ensure completeness of the data. Any gaps identified in the data collected were covered during the remaining interviews. Using the unique participant identifiers, the principal investigators compared the information collected from the participants purposively sampled based on phylogenetic information with the mobility behaviour of other participants sampled from the same locality.

Analysis of the data was done thematically deploying both deductive and inductive approaches for usefulness and flexibility (Braun & Clarke, 2006, 2012). The principal investigators initially independently read two identical scripts and each identified codes, which were discussed, and discrepancies harmonised. Codes with similar meanings were grouped together to form broader codes and themes. A final coding framework was then agreed upon by the teams based on the identified themes, and a coding matrix was developed where data was manually coded by pasting illustrative quotes from the interview transcripts under matching themes. Besides comparing information collected from both samples (30% and 70%) and sites, the research teams met regularly to discuss the patterns observed in the data as well as to harmonise coding discrepancies. We drew on the work of Carling and Talleraas (2016) to use the concepts of 'root causes' and 'drivers' of migration to structure our analysis.

Ethical considerations

Ethical approval for the study was granted by the Uganda Virus Research Institute Research Ethics Committee (GC/127/20/12/799), Uganda National Council for Science and Technology

(SS698ES) and London School of Hygiene and Tropical Medicine Ethics Committee (26097). Prior to participation in the study, written informed consent was obtained from each participant. Participants who could neither read nor write consented using a thumbprint witnessed by an impartial witness. All other ethical obligations including participants' rights, confidentiality and compensation were observed in accordance with Good Clinical Practice (GCP), European Union General Data Protection Regulation (EU-GDPR), and local ethics/regulatory guidelines.

Findings

The participants

A total of 60 participants, 20 identified through phylogenetic analyses and 40 of similar characteristics from the community, were recruited. Participant characteristics are summarised in [Table 1](#). Women were relatively younger than the men, with an average age of 31 and 38 years for women and men respectively. Education levels were generally low. Over half of the participants were married or cohabiting. While men were mainly engaged in fishing and small-scale farming, women were more likely to be involved in bar/restaurant work or engaged in unpaid domestic work with support from their marital or cohabiting partners. Nearly all the participants told the interviewer their HIV status, even though this was not specifically asked.

Social context that led to migration to fishing communities

Several factors led individuals living with HIV, particularly women, to migrate to fishing communities on the shores of Lake Victoria. The 'root causes' of migration generally derived from unfavourable conditions that forced the individuals to migrate from their former homes or communities, while the drivers of migration were the mechanisms which led to these

Table 1. Participants' demographic characteristics.

| Variables | Men | Women | Total |
|--|-------|-------|-------|
| Age | | | |
| Age range | 25–50 | 22–49 | 24–50 |
| Mean age | 37.5 | 31 | 34 |
| Marital status | | | |
| Single/separated | 6 | 6 | 12 |
| Married/cohabiting | 24 | 22 | 46 |
| Widowed | 0 | 2 | 2 |
| Education | | | |
| None | 2 | 6 | 8 |
| Primary | 20 | 16 | 36 |
| Secondary | 7 | 7 | 14 |
| Tertiary | 1 | 1 | 2 |
| Occupation | | | |
| Fishing/fish related | 15 | 1 | 16 |
| Petty trader | 3 | 6 | 9 |
| Bar/restaurant work/sex work | 0 | 8 | 8 |
| Small-scale farmer/casual work | 9 | 3 | 12 |
| None* | 0 | 7 | 7 |
| Other | 3 | 5 | 8 |
| HIV status (self-reported to interviewers) | | | |
| Negative | 18 | 12 | 30 |
| Positive | 10 | 18 | 28 |
| Unknown | 2 | 0 | 2 |

*This term was used by some women who did not have paid employment but worked at home caring for the house and family.

individuals choosing to migrate to fishing communities. These drivers could be, for example, social networks or having access to information that a particular place was a safe or desirable place to go.

Root causes of migration

The root causes of migration, the social conditions that induce departures, were mostly related to issues of stigma especially from the community, which was mainly in the form of social discrimination/humiliation, rejection or HIV labelling, and violence.

Stigma – prejudice, stereotypes and discrimination

Most participants in both sites (RHSP and MRC/UVRI&LSHTM) and samples (the 30% and 70%) noted that individuals living with HIV migrated to avoid stigma. Participants said people living with HIV were labelled with derogatory terms such as *mulwadde* (a sick person), *embwa yamuluma / enkima yamuluma* ('was bitten by a dog' or 'was bitten by a monkey'), which resulted in rejection, discrimination, social isolation and humiliation, and which caused them to feel uncomfortable in their communities. This discomfort led to them migrating. Experiences of and fear of stigma induced individuals to leave their former communities to seek refuge in other places where they were not known and could easily blend in or where they thought they could be accepted and live more comfortably with less discrimination as expressed in participants' voices below:

I think, for an individual to move [migrate] from the inland village when they are HIV-infected, it is because they are being stigmatized, unlike in the fishing villages where we have said that HIV is rampant. When those in the inland villages see an HIV-infected person, they start insulting him/her that s/he is infected with HIV. For instance, I recently visited my sibling in town XX but they were always surprised to see me taking ART [antiretroviral therapy] ... but in this fishing community, you may find us seated around 10 people when we all have HIV. (male, 50 years, living with HIV, site 2)

In most cases, people on the inland when they identify that you are infected with HIV, they start segregating you, even if they are your own people. (male, 45 years, living with HIV, site 1)

For others, especially the younger people below the age of 30 years, once they learned that they had HIV, and because of the anticipated social humiliation of HIV labelling and stereotyping, they decided to migrate before the community learned about their status. This was because they feared the 'HIV positive' label, which was associated with several other challenges, including sexual rejection, whereby people in the community would not engage in sexual relationships with individuals known to be living with HIV, yet these were young people searching for partners and with a life ahead of them. Hence, this anticipated stigma was a major cause of migration.

For instance, if I am your son with 20 years of age, and a neighbour's daughter who is also aged 20 loses a husband to HIV/AIDS; you may not allow me [your son] to fall in love with that woman. The woman will feel unsettled thus deciding to move into another place where she is not known. That is why most of the women move to the fishing villages. (male, 44 years, living with HIV, site 2)

Violence and discrimination

Some participants, especially women, described experiencing discrimination when their partners learned that they had HIV or when they lost their partners to HIV. This ranged from denial of financial/child support, being thrown out of their marital homes or off their land, and involuntary widow inheritance (a local practice where a widow is expected to marry one of her husband's relatives). For example, one woman who had lost her partner to HIV described how her in-laws mistreated her, forcing her to leave her former community:

When my husband died, the situation became so hard for me as the family of my husband (in-laws) was mistreating me, with one of my in-laws wanting to marry me and take the land from me; I felt that they had gone

too far. My life was in misery, so when I saw that the situation was becoming worse, and my children had grown older, I left and shifted to this side. (female, 49 years, living with HIV, site 1)

Drivers of migration

Several drivers of migration were related to factors which attracted people to fishing communities and were consistent across individuals living with or without HIV. These included the availability of employment opportunities, invitations from family or friends, safe hideouts for people running away from their past, in addition to being an ideal place for fun/merry-making. However, some of these factors were specific to people living with HIV and were linked to the stereotyping of people living with HIV experienced in their place of origin, for example. Fishing communities were described as places where HIV was de-stigmatised, where all categories of people were welcome and where one could easily change their social identity to be transformed into someone who fitted in, where there was ready access to healthy food (specifically, fish), and where HIV care services were easily available. The fishing communities were depicted as places where people living with HIV did not experience discrimination. A major driver of migration was the information shared through social networks that fishing communities were places with less stigma, where people could live without fear of discrimination.

One of the reasons given as to why fishing communities were considered as places with less stigma was the association people attached to HIV in fishing communities. *As you know life at landing sites, people do not take HIV seriously*, a 25-year-old woman living with HIV remarked. Ironically, the stereotype of fishing communities being places of high HIV prevalence held by people from inland communities, was an inducement for people living with HIV to move. There was a belief that fishing communities were places where all the people were living with HIV infection:

I grew up knowing that HIV-infected people are the ones found on landing sites. I did not know that even the HIV free individuals are also found there. (female, 25 years, living with HIV, site 2)

The association of HIV with fishing communities was long-standing – the first cases of HIV in Uganda were identified in a fishing community on Lake Victoria, so people tended to associate HIV with fishing communities thinking it was a normal phenomenon within those contexts.

XX [name of fishing community] is well-known as this is the place where the first cases of HIV were identified. So, most of the HIV-infected people think that when they come to XX, they will not be discriminated as it happens or would happen in other communities. An individual therefore moves to XX knowing that living with HIV is not an issue in the area, “it does not matter even if another person sees me with the HIV pills [antiretroviral therapy] or if I disclose to them”. (female, 25 years, not living with HIV, site 2)

Fewer settlement requirements

On leaving their former communities, individuals were attracted to migrate to fishing communities where one could easily settle because, it was reported, a person was not required to present any form of identification documentations to stay there. Participants noted that for purposes of both local and national security, the minimum requirement to settle in a new area, including fishing communities, is a recommendation/introductory letter from the local authorities of your former community. For fishing communities, however, this requirement was often not strictly followed, and there was free entry and exit, making it attractive for people who wanted to conceal their identity.

Participants’ narratives further reflected how fishing communities accommodated all sorts of people from widows who had lost their partners to HIV to criminals who moved from one island to the next making them hard to identify or trace as fishing communities are very densely populated. The image of fishing communities as places where people could escape difficult situations meant that individuals came expecting to start a new life in these communities where they were not known or required to explain themselves.

I think they want to come in the community where they are not known. For instance, if an individual moved from xx (name of community) a widower like me, then I get to settle in this community. That means once I move into this community, then I will be starting a new life ... (male, 40 years, not living with HIV, site 2)

There was even a tendency to change names, especially among women, when they moved to fishing communities. Changing social identity came along with other benefits, including living a normal life free of the HIV label and the fear of enacted stigma. This freedom extended to a confidence that there would be opportunities to find sexual partners, particularly partners who might provide financial support.

Targeting fishermen as sexual partners/clients

The desire to make an income prompted several women who lived with HIV to migrate to the fishing communities for sex work as expressed by this 40-year-old woman living with HIV: *Men in the fishing communities are very fond of paying for sex.* They specifically targeted the fishermen whom they believed to have disposable income to exchange for sex. Women said that unlike on the mainland where money was scarce, with coffee (the main cash crop) harvested twice a year, resulting in men spending money sparingly the rest of the time. They said this was different in fishing communities as fishermen always had money at their disposal. In fact, fishermen were reported to ‘cool-off’ whenever they returned from their fishing trips through eating, drinking alcohol and having sex.

Every fisherman who comes from the waters with his money goes to the cinema hall, from there he goes to the bar to drink, and the women are there waiting for him. After drinking alcohol, they lose the sense of judgement and even when they see an ugly thing, it appears good and that is what causes the virus to spread a lot on the landing site. (male, 42 years, living with HIV, site1)

Several respondents noted that it was easy for both men and women to get a sexual partner in fishing communities because of the normalisation of HIV in these settings. On the one hand, men could easily find partners as there were many women at fishing communities who went to those communities to purposely get partners or clients (men who would pay them for sex). Conversely, women – especially widows and women who sold sex for money or goods – sought refuge in fishing communities since their HIV status was rarely a topic of discussion during partnership formation there. Widows came with an intention of finding partners who could take care of them and their children while women who sold sex came to find sexual clients. These women often had few options in the fishing sites for income earning opportunities, with those working in bars and restaurants supplementing their income by selling sex, as well as women who provided sex as their main occupation. It was perceived to be very easy to get a sexual partner/or sex work client even if a person was living with HIV.

Some people, especially the widows, come at the landing sites to get men who can help them in raising their children, as men in villages hardly get interested in widows. Maybe, if they [village men] are also HIV positive; but those from landing sites look on widows as beautiful and healthy ladies and easily fall for them not knowing that they lost partners (female, 33 years, living with HIV, site 2)

For instance, you may find that the husband has died but after like 2–3 days, the state of being a widow [widowhood] ends there [she remarries]. Surprisingly, you may find when she has married still in the same landing site. I realised that HIV spread is still far from ending. (male, 44 years, living with HIV, site 2)

Easy access to healthy food (fish)

The availability of fish was reported to be an attraction to come to fishing communities, as individuals living with HIV as well as people in general believed that healthy eating could help boost their body immunity thus reducing the risk of HIV progression and averting the need for ART and its negative side effects. Individuals believed that improved nutrition through daily or regular consumption of fish would improve their health and give them a longer life.

People living with HIV come to the landing site because they want to eat fish, to improve and boost their immunity. It is believed that they live longer while at the landing site compared to when they are inland. (male, 38 years, living with HIV site 1)

Community-based provision of HIV care services

Participants reported that the community-based delivery of HIV care services at some fishing communities was an attraction. When individuals learned from family or peers about the home-based HIV care services that are delivered to some of these communities, they were attracted to migrate to where they felt that accessing HIV care would be easier compared to their former communities where they had to incur costs for transport to access the services.

The major reason why I came to particularly [name of fishing community] was the place where I used to pick my medication [ART] was very far and transport fares were high. I would at times fail to return to the health facility for my refills due to lack of money for transport. As a result, I would miss taking medication [ART]. I decided to tell my mother and given that I have an uncle this side, he invited me through my mother. Upon reaching this side, my life drastically changed [from bad to good]: I came while emaciated but I am now healthy given that I take my medication [ART] on time. (female, 25 years, living with HIV, site 2)

Abokumwalo bo baakikuba eky'eddagala [Regarding ART, people at fishing communities hit a jackpot]. What I mean is that someone can leave their sauce cooking on the fire and they run off shortly, after an hour, they are back with their drugs. In contrast, to get ART services from XX [inland community], you must spare an entire day for picking your drugs [ART]. For those who access it from here, shaa [expressing it is very easy]; s/he wakes up in the morning, does her/his work, then goes to pick their drugs. (female, 24 years, not living with HIV, site 2)

Although the anticipated home-based delivery of ART was an attraction to fishing communities, participants reported that not all migrants living with HIV came because of ART. Overall, while experiences of stigma and other negative circumstances in their former communities may have induced people living with HIV to move to fishing communities, the nature of these settings whereby people could blend in and the perceived availability of HIV services as well as the expectation of nutritious food (fish) were the primary drivers for them to settle in the new place.

Discussion

We found that stigma, particularly in the form of discrimination, caused individuals living with HIV to feel unsafe and uncomfortable in their former places of residence leading them to migrate to Lake Victoria fishing communities, where they anticipated less stigma and an ability to blend in, in a place where they thought HIV infection was common. Framed in the language of Carling and Talleraas (2016) these findings suggest that the root causes of migration lie in the social and political conditions in their place of origin which induce people to make the decision to migrate and the drivers which shape that migration and influence the process and where they migrate. In our study, the unfavourable attributes of stigma in the form of social discrimination and humiliation in their former communities induced the decision to move out of those communities, while the anticipated safety and comfort in a welcoming environment, with perceived access to care and support, as well as new sexual relationships, attracted them to the fishing communities of Lake Victoria.

The welcoming nature of fishing communities of Lake Victoria has been observed by Nunan (2021), who found that good relations existed between the more permanent and migratory residents because even those who were now permanent residents had been mobile or migrated at some point in the past because of the nature of their work.

Our findings highlight the different mechanisms by which stigma is made manifest in the lives of migrants living with HIV through acts of discrimination, stereotyping and prejudice. Stigma also affects those who are not living with HIV by affecting their behaviour towards other people living with the infection and influencing their willingness to test for infection or to access HIV pre-exposure prophylaxis (PrEP) to prevent infection (Ddaaki et al., 2021). Stigmatising labelling and discrimination have been shown to lead to migration in other studies. For example, in a study

by Van Hear et al. (2018) they found that Somali migrants considered being labelled as ‘refugees’ was a driving force for further migration. In our study, the labelling of individuals living with HIV as ‘sick people’ humiliated individuals causing them to migrate. Fan and Stark (2011) in their theory of migration indicated how labour migration was in some cases prompted by a desire to avoid social humiliation of performing degrading or lower status jobs. They contend that, as long as migration can reduce humiliation sufficiently, migration will occur even between two identical economies. The mechanisms of prejudice and discrimination, where enacted stigma is felt by people living with HIV as rejection, social humiliation and labelling, are key factors in influencing migration (Earnshaw & Chaudoir, 2009).

Likewise, the presumed lack of stigma in fishing communities, coupled with the fewer/relaxed settlement requirements rendered these communities a preferred destination for the migrant individuals living with HIV. Earlier studies on migration dynamics in Lake Victoria fishing communities have reported similar findings. For example, a study on women’s mobility along the shores of Lake Victoria showed how women living with HIV migrated to fishing communities and engaged in sex-for-fish relationships (*jaboya*) with the fishermen (Camlin et al., 2013). Participants in that study expressed that even when there were no fish, the *jaboya* made sure that these specific women got fish, which resulted in the spread of HIV. Findings from other studies corroborate this finding (Kwena et al., 2020). Indeed, the fishermen expressed the view that they were ‘sexually starved’ during their fishing trips and how they had ‘as much sex as possible’ when they returned from their fishing errands, which according to them predisposed them to HIV acquisition (Lubega et al., 2015b). Findings from our study showed how individuals migrated to fishing communities targeting fishermen for sexual clients/partners for an income or financial support.

We found that some individuals with HIV were attracted to fishing communities to easily access ART since it was perceived to be readily accessible in these communities. There has been a targeted focus on HIV treatment delivery to fishing populations which has resulted in increased HIV services availability in some fishing communities in the recent years, which is a change from the past (Kagaayi et al., 2019; Seeley & Allison, 2005). It is possible that the places these people had moved to were among sites which had benefited from this targeted provision of services to fishing communities (part of the Government of Uganda HIV care strategy). Indeed, it was reported that there were many HIV/AIDS care service providers, especially non-governmental organisations targeting this key population of the fishing communities. While services may be available, that provision does not guarantee uptake. Studies have shown lower use of HIV care services, including lower ART use by individuals migrating to fishing communities, compared to inland communities (Grabowski et al., 2020; Olawore et al., 2018; Ratmann et al., 2020). Similar results were also reported in another study in Tanzania (Kapesa et al., 2018). Other research reports limited adherence to care and treatment and thus poor outcomes among mobile populations (Camlin et al., 2018; Nunan, 2021). We also found that care was not always being utilised. Stigma, which induced individuals to migrate, still prevented some of them from taking up the HIV care services during and after migration, for fear of continuing with the HIV label in their destinations, suggesting the continuing damaging influence of internalised stigma. Our findings therefore corroborate findings of earlier studies which identified HIV-related stigma as a barrier to treatment of HIV among migrants (Camlin et al., 2014; Massey et al., 1998), and has been cited as a major barrier to effective responses to the HIV epidemic (Mahajan et al., 2008).

Participants spoke of the opportunity to feed on nutritious fish as helping people with HIV to live longer and remain strong. However, this view runs counter to earlier studies which have indicated high malnutrition levels among the fishing communities, as all the fish is sold and people are left with nothing or little fish to eat (Geheb et al., 2008). This is not surprising given the income that can be made from selling fish commercially, so that very little is left within fishing communities for consumption (Kabahenda & Hüsken, 2009). The aspiration of having the opportunity to eat plenty of fish may not be easily realised.

A strength of our study was the selection of different samples; the 30% individuals identified through phylogenetic analyses and the 70% sample of unknown HIV status from the community,

which included several people living with HIV, resulting in a sample with roughly half of those taking part living with HIV, enabled the exploration and comparison of experiences. Additionally, data were collected at different sites which indicated that those experiences were not site specific. A limitation was that selection of our sample focused only on individuals who migrate to fishing communities. Examining the reasons why people migrate to inland communities, such as rural agrarian and main road trading communities, could have enabled a more complete understanding of the uniqueness or similarities of the reasons for migration across community types.

Conclusion

There are several social phenomena underlying the observed migratory patterns of people living with HIV from the neighbouring inland communities to fishing communities, whereby individuals with HIV selectively migrate to the fishing communities. The major underlying issue however is various forms of stigma, which resulted in individuals moving away from their former communities to fishing communities which are places they felt comfortable. The role of stigma in inducing migration, highlights the continuing need to tackle stigma and discrimination against people living with HIV. Our findings also suggest that there are opportunities to support people living with HIV, as well as people who may be reluctant to test and seek support, in settings like fishing sites where there is an acceptance of HIV as a lived reality of people's lives by some residents. There could be a role for settled migrants to act as peer supporters of new migrants, as well as for existing residents, guiding to health services and providing counselling and advice.

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