
HIV/AIDS Information in Tanzania: A guide to Future Research

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Abstract

The study examines HIV/AIDS information research conducted in Tanzania for the period of 20 years between 2001 and 2020. Specifically, the study identifies studies' settings and focus, and the HIV/AIDS information challenges reported in them. The study used metadata analysis design where 20 studies on HIV/AIDS information carried in Tanzania were reviewed. Microsoft Office Excel 2010 was used to analyse the data quantitatively. The study has found that most of the reviewed studies were conducted in urban areas. The studies were mostly set in communities and health centres and targeted people living with HIV/AIDS and health workers. Topic-wise the studies focused on access to and use of HIV/AIDS information and HIV/AIDS information dissemination. The most common challenges that affect HIV/AIDS information access based on reports made by the reviewed studies are inadequate information systems and structure, lack of information search skills and lack of information and library services. Evidently, there is a gap in HIV/AIDS information research in the country. As such, information science researchers should conduct more studies on HIV/AIDS information to increase data availability. Information professionals should come up with a research agenda that will direct researchers' attention to HIV/AIDS matters that will enable policy makers to have enough accurate and up-to-date baseline data to aid HIV/AIDS information management.

Keywords: Health information, HIV/AIDS information, Tanzania

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Introduction

HIV/AIDS epidemic continues to be one of the biggest global problems. At the end of 2019, 38 million people were living with HIV/AIDS globally while in total, 75.7 million people have become infected with HIV since the start of the epidemic (UNAIDS, 2019); among these, 32.7 million have been reported to have died from AIDS-related illnesses. Majority of those that died are young adults who would have been in their peak productive and reproductive ages (UNAIDS, 2019). In Tanzania, about 1.5 million people are reported to live with HIV/AIDS while 65,000 new infections are recorded annually (UNAIDS, 2019). About 32,000 deaths related to AIDS-related illnesses have been reported since the start of the epidemic (UNAIDS, 2019). Evidently, the magnitude of HIV epidemic varies across the country, with some regions recording low prevalence rate of less than 1.5% (Manyara and Lindi) while others report considerably higher rates of more than 9% (Njombe, Iringa, and Mbeya) (UNAIDS, 2020). In particular, the disease is



found to cause vulnerability and poverty among households and the country in general (Oni et al., 2002; Masako, 2006; Mulungu, 2010). More specifically, deaths resulting from HIV/AIDS complications have reduced many families' labour force, productivity, and disposable income in Tanzania (WHO, 2017). Along these, the disease has seen large amounts of government funds set aside to treat and care for HIV/AIDS patients in hospitals. In addition, the problem has affected human resources, more especially in hospitals, where human resource crisis has been noticed (NACP, 2017).

A lot of initiatives are underway to reduce the rate of effects of HIV/AIDS in Tanzania. For instance, the introduction of antiretroviral treatment, the introduction of oral HIV tests, prevention of mother to child transmission; cash transfer programs, information dissemination and awareness programs (NACP,2017). Information dissemination and awareness programs, among others, focus on awareness creation, access to information services and life skills development for behaviour change (NACP, 2017).

It is an undeniable fact that information is an important resource for people and remains the most important tool in the management of HIV/AIDS. In fact, relevant HIV/AIDS information is important because it helps people to make appropriate decisions concerning their health status (Stores, 2006). Most of the time the information that is distributed in different sources helps to inform the public on HIV/AIDS matters like HIV/AIDS drugs, access to HIV health services, HIV prevention and care, dieting and fitness, symptoms of HIV and HIV/AIDS human rights (Huber & Cruz, 2010; Ogunmodede, 2014; Gombachika, 2013; Knut-inge, 2010; Murimba, 2014; Omunugha & Ekwugha, 2017).This information helps to minimize the risk of new infections and death related to HIV complications.

As such, research on how best to provide this resource is vital. However, although many researchers (e.g. Chande, 2014; Sefu, 2012; Manda & Moshia, 2012; Nkebukwa & Kokuberwa, 2010) have studied this subject with respect to Tanzania, it is not easy to establish the strides that have been made and inadequacies that persist so as to establish a collective research direction. As a result, this study, a meta-analysis of existing studies, has been conducted to find out the magnitude of research on HIV/AIDS in Tanzania so as generate insights on the extent of existing knowledge on this topic in Tanzania. This study is expected to be fundamental in future efforts to come up with strategies for improving both the volume and quality of research on this topic. Through establishing research gaps in this subject area the study is expected to inform the focus of future research. To achieve its aim, the study has identified the settings and focus of previous studies, and the challenges associated with HIV/AIDS information reported by the studies reviewed.

Related literature

Many extant studies such as those carried out by Huber& Cruz (2010),Gombachika (2013), Stonbraker and Larson, (2015), Stores (2016),Ogunmodede et al. (2015), Omenugha and Ekwagha (2007),Schoombe (2009),Lwoga et al. (2017), Chande (2014), Nkebukwa and Kokuberwa, 2010, and Seifu (2012) have looked into HIV/AIDS information. These studies differ in context, targeted populations, research designs and nature. Regarding study settings, health centres, communities and learning institutions (universities and schools) were the most targeted. For instance, a large proportion of the studies reviewed (i.e.Huber&Cruz,2010; O'Glady, 2008; Gombachika,2013; Ogunmodede,2014; Stonbraker & Larson, 2015; Stores,2016; Lwoga *et al*, 2017; Kaijage &

Mwammenywa, 2018; Lwoga, 2019; Rumisha, 2007) targeted health centers. Similarly, those that targeted communities were many (see Nkebukwa & Kokuberwa, 2010; Sefu, 2012; Mboera *et al.*, 2007; Kija, 2008; Chande, 2014; Knut-Inge, 2010; Manda, 2008). As stated earlier, those that targeted universities and schools (see Manda & Moshia, 2012; Muneja, 2006; Klepp, *et al.*, 2008; Mjule, 2008; Mulungu, 2010) were considerably many too. In contrast, libraries were targeted by fewer studies (see Muswazi, 2000; Schoombee, 2009; Mbunda, 2012). The focus of majority of HIV/AIDS studies being on health centres and communities appears to suggest that these two entities are the most preferred gateways to reaching all kinds of people with information on HIV/AIDS prevention and care. This belief is attested to by Stores (2016).

According to the existing literature, researchers appear to have mostly targeted people living with HIV/AIDS and students as their unit of analysis when trying to understand matters to do with HIV/AIDS information. While some studies (e.g., Huber & Cruz, 2010; O'Grady, 2008; Gombachika, 2013; Ogunmodede, 2014; Stonbraker & Larson, 2015; Stores, 2016; Lwoga *et al.*, 2017) targeted people living with HIV/AIDS, others (e.g., Omenugha & Ekwagha, 2007; Oyeyemi, 2009; Moshia & Manda, 2012; Mjule, 2008; Mulungu, 2010; Muneja, 2006; Klepp, *et al.*, 2008) focused on students. However, there are some studies that focused on other populations. These include librarians, teachers and villagers (e.g. Sefu, 2012; Nkebukwa & Kokuberwa, 2010; Mboera *et al.*, 2007; Kija, 2008; Chande, 2014; Knut-Inge, 2010; Manda, 2008). These studies can also be differentiated based on setting (urban, rural). In this respect, it has been noted that a large number of studies (e.g. Ogunmodede, 2014; Oyeyemi, 2009; Schoombee, 2009; Mbunda, 2012; Manda & Moshia, 2012; Sefu, 2012; Dutta, 2009; Msuya, 2007; Mbunda, 2012; Muneja, 2006; Hyera, 2006; Knut-Inge, 2010; Rumisha, 2007) were conducted in urban areas while very few (e.g. Gombachika, 2013; Omenugha & Ekwagha, 2007; Chande, 2014; Mulungu, 2010; Nkebukwa & Kokuberwa, 2010) were set in rural areas. To explain the urban-only setting of a study carried by Mbunda (2012), a statement that attributed the decision to financial constraints that made covering the rural part of the study area impossible was provided. Subject-wise, it has been noted that most of the reviewed studies focused on access to and use of HIV/AIDS information (see Adenuga, 2009; Larson, 2017; Hyera, 2006; Mjule, 2008; Muneja, 2008) and HIV/AIDS information needs (Huber & Cruz, 2010; O'Grady, 2008; Stores, 2016; Stonbraker & Laison, 2015; Mulungu, 2010; Ogunmodede *et al.*, 2015). The reviewed literature has revealed various challenges faced by communities in accessing HIV/AIDS information as reported by various researchers. As a study by Lwoga (2019) revealed, lack of proper information searching skills affects some people's access to HIV/AIDS. Likewise, in a review of HIV/AIDS information studies carried out over a period of twenty years, Lwoga (2017) reported that because of lack of searching skills, a lot of information available is not well utilised by communities. O'Grady (2008) noted that lack of updated material in libraries contribute to poor access to HIV/AIDS information. This has also been reported by Mbunda (2012), who noted that libraries lack updated materials on HIV/AIDS; which hinders the utilization of libraries by communities that need HIV/AIDS information.

Overall, the reviewed studies differ in terms of focus, perspectives, contexts, methodologies, and reporting. Nevertheless, although researchers' efforts are visible in the quantity of studies available on this subject, it is not easy to establish the distance that has been covered as of yet. Such a gap can be addressed through meta-analysis and bibliometrics, designs that have been by various other researchers (Ndimbwa *et al.*, 2019; Mtega, 2020; Emmanuel & Sife, 2021; Kanyika & Elia, 2021) for similar purposes. The use of these designs in HIV/AIDS information has been very limited hence leaving researchers to decide their research focuses based on their personal reviews of literature. For instance, a study (i.e. Kanyika & Elia, 2021) that was carried out using

this design in Tanzania only focused on HIV/AIDS information published in Tanzania's newspapers.

Methodology

This study is desk research that has used a meta-analysis design to analyse HIV/AIDS information studies that have been carried out over a period of 20 years (from 2001-2020). The studies reviewed were: Msuya, 2007; Mbunda, 2012; Muneja, 2006; Hyera, 2006; Kija, 2008; Mjule, 2008; Mulungu, 2010; Lwoga, 2009; Klepp, *et al.*, 2008; Sefu, 2012; Chande, 2014; Manda & Masha, 2012; Kaijage & Mwammenywa, 2018; Mboera *et al.*, 2007; Knut-Ing *et al.*, 2010; Rumisha, 2007; Manda, 2008; Lwoga *et al.*, 2017; Nkebukwa & Kokuberwa, 2010 and Senyoni, 2007. Considering the nature of the objectives of this study, which focused on looking at what previous studies have done and found to identify underlying issues that require attention; a meta-analysis design was considered more suitable. The study has taken on a quantitative research approach to quantify studies based on their target population, study institutions/organization, topic focused on, and issues reported.

This study has been carried out to look at HIV/AIDS information studies that have been carried out in Tanzania over the period between the year 2001 and 2020. The researchers' choice of years was influenced by the need to access current studies in HIV/AIDS information that reflect current trends in the management of the epidemic. For this purpose, all retrievable studies that fell within the boundaries of this study's aim made the target population. In other words, a purposive sampling method was used to identify studies that qualified for inclusion in the study. The selection of studies was based on the following criteria: the study setting being Tanzania, the studies must have been carried out between the years 2001 and 2021, and the studies must cover HIV/AIDS information. In total, the researchers were able to retrieve 20 studies that met these conditions.

Considering that this study was aimed at examining HIV/AIDS information research efforts made by researchers, its focus was on analysing the retrieved studies. As such, the researchers employed a documentary review method to collect data from these studies. An in-depth literature search was conducted, and relevant studies were identified. The search for relevant studies was done through Google Scholar with a customised range of 2001 to 2020. Various keywords with such as HIV/AIDS, Information, and Tanzania were used to refine the results. Types of publications considered in the study were journal articles, theses, dissertations, working papers and conference proceedings. Microsoft Office Excel 2010 was used to analyse data quantitatively.

Findings

This section covers the presentation of findings obtained from the analysis of data in the sampled studies. As mentioned earlier, the study analysed 20 studies on HIV/AIDS information in Tanzania. The findings generated from the analysis have been presented based on three themes formulated from the specific objectives of the study.

Settings of HIV/AIDS information Studies

The first specific objective of this study was to discover the contextual settings of HIV/AIDS information in Tanzania. By doing so, the study sought to determine areas where available HIV/AIDS Information in Tanzania: A guide to future research

HIV/AIDS studies were carried out and their target populations. As part of this objective, the study has discovered the type of study area (urban or rural), types of institutions that have been studied, and the targeted populations. This has been done to ascertain the areas, institutions, and population groups that have received much of HIV/AIDS information researchers' attention in the country. The subsections that follow present findings on these areas.

Location of Study Area

The study's initial purpose was to identify the locations of areas where the reviewed HIV/AIDS information studies were conducted. The locations have been categorized as urban and rural. The purpose of this was to understand the attention paid by researchers to information users in various geographical settings considering that one's geographical location can influence their access to information. What this analysis has found on this aspect has been presented in Table 1:

Table 1: Location of the Study Area

Location n=20	Frequency	%
Urban	15	75
Rural	5	25
Total	20	100

The findings in Table 1 show that for the period observed, HIV/AIDS information studies have been concentrated in urban areas than rural ones. This is evident in the 75% of studies that have been found to have been set in urban areas compared to only 25% conducted in rural areas. The findings suggest that researchers are keen to understand the relationship between urban populations and HIV/AIDS information.

Study Institutions or organization

This study also aimed to find out the institutions or organizations in which the selected studies were carried out. The study institutions/organization were categorized based on their nature (i.e., Universities, schools (secondary or primary), health centre, libraries, and general community). The results obtained are summarized in Table 2.

Table 2: Study Institutions

Targeted Institutions n=20	Frequency	%
Universities	2	10
Schools	2	10
Libraries	3	15
Communities	11	55
Health Centres	7	35

The results show that among the HIV/AIDS information studies that were conducted during the reviewed period, 55% were set in communities, followed by 35% that were set in health centres, 15% that were set in libraries, and 10% set in universities and 10% set in schools. Based on these findings, researchers have paid the least of their attention to populations in universities and schools. It should however be noted that there are a few studies that focused on more than one institution e.g., community and health centres.

Targeted Populations

Furthermore, the study sought to find out the populations targeted by the studies that were retrieved for analysis. This was done with the recognition of the importance it has in establishing a detailed understanding of researchers' focus when carrying out studies on HIV/AIDS information.

Table 3: Targeted Population by Studies

Targeted Population (n =20)	Frequency	%
Villagers	4	20
People living with HIV/AIDS & health workers	7	35
Students and teachers	5	25
Library users & librarians	1	5
Youths	2	10
Special groups	1	5
Total	20	100

Table 3 shows that a considerable percentage (35%) of the studies reviewed targeted people living with HIV/AIDS and health workers. The results can be attributed to the understanding that people living with a problem and those that are trying to handle it are likely to be the ones mostly in need of information on the problem hence the need to find better ways of optimising their information access and use experiences.

HIV/AIDS Information Topics focused by Studies

The study also focused on topics of HIV/AIDS information that were focused on by the reviewed studies. This was considered important information for forming a joint understanding of what has been done and what needs to be done in the future. The HIV/AIDS information topics focused on by the studies are as summarized in Table 4:

Table 4: HIV/AIDS Information Topic Focused by Studies

HIV/AIDS Focused Areas n=20	Frequency	%
Access and use of HIV/AIDS information	10	50
HIV/AIDS Information seeking behaviours	2	10
HIV/AIDS information dissemination	6	30
HIV/AIDS information needs	1	5
HIV/AIDS information awareness	1	5

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Total	20	100
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Table 4 shows results on HIV/AIDS information topics that the studies that have been reviewed focused on. Access to and use of HIV/AIDS information and information dissemination were the most studied topics since they were focused on by 50% and 30% of the studies respectively. The least focused on topics was HIV/AIDS information needs, information seeking behaviour and HIV/AIDS information awareness.

Challenges Reported to Affect HIV/AIDS Information Access

The third objective of this study was to identify challenges reported by researchers during the specified period of review to affect HIV/AIDS information access. This was done with hope that identifying these challenges will highlight those that are very prominent so as to direct researchers' and practitioners' attention to them. Based on the studies analysed, the challenges that affect information access are summarized in Table 5.

Table 5: Challenges Reported to Affect HIV/AIDS Information Access

Challenges reported that affect HIV/AIDS information seeking n=20	Frequency	%
Lack of information search skills	8	40
Lack of access to internet	3	15
Inadequate information system and structure	15	75
Low level of education	4	20
Language barriers	5	25
Lack of information and library services	6	30
Limited access to radio/television/newspapers	2	10
Culture difficulties	2	10

Table 5 shows that initiatives in HIV/AIDS information access in Tanzania face several challenges. Among these, inadequate information system and structure (75%) is appears to have the strongest influence on HIV/AIDS information access in the country. This is followed by other challenges like lack of information search skills (40%) and lack of information and library services (30%). The results further show that language barriers (25%), low level of education (20%), lack of access to internet (15%), limited access to radio/television/newspaper and cultural difficulties (10%) have a weaker influence on the initiatives.

Discussion

Bearing in mind the importance of information in managing HIV/AIDS, it is apparently vital for communities to have access to timely, relevant and adequate HIV/AIDS information for decision



making purposes. In other words, the HIV/AIDS information needed by a community needs to be available for easy access and use. It is based on these grounds that looking at the availability of research that covers various aspects of HIV/AIDS information is necessary. Among other things, this analysis has clearly shown that HIV/AIDS information research (e.g., Ogunmodede, 2014; Oyeyemi, 2009; Schoombee, 2009; Mbunda, 2012; Manda & Moshia, 2012; Sefu, 2012; Dutta, 2009; Msuya, 2007; Mbunda, 2012; Muneja, 2006; Hyera, 2006; Knut-Inge, 2010; Rumisha, 2007) carried out between the year 2001 and 2020 was set in urban areas than rural areas. The limited HIV/AIDS information research focus on rural areas takes us back to the implementation of the TNAIDS policy that stresses free and equal access of HIV/AIDS information for people in rural areas. However, it is worth noting that some of the reviewed studies (Mbunda, 2010; Manda & Moshia, 2012) reported choosing urban areas as study settings due to financial constraints. Similarly, others (Lwoga et al., 2017; Sefu, 2012; Mulungu, 2010) noted that, rural areas need more funds to cover transportation as well research assistance as most people in rural areas are illiterate. This calls for government and institutions that support HIV/AIDS research in Tanzania to set aside funds to support research in rural areas.

Apart from the locations of the study (rural v/s urban), the study also looked at the study institutions/organizations as one of the important aspects of study settings. The findings of the study revealed that during the period of 20 years, most of the HIV/AIDS information studies in Tanzania have been focused on communities and health centres. This trend has been reflected in studies carried out elsewhere (e.g., Huber and Cruz, 2010; O'Glady, 2008; Gombachika, 2013; Ogunmodede, 2014; Stonbraker and Larson, 2015; Stores, 2016). However, this is a clear disclosure of the shortage of empirical literature from other important areas of study in the country. Apart from this, the limited attention paid by researchers to libraries arouses more curiosity considering that these entities are key in information services provision.

HIV/AIDS information studies need to focus on all populations to find out which ones need what kind of information since the disease affects the whole community. Findings from this study have revealed that studies have paid more attention to people living with HIV/AIDS and health workers. This is in line with existing literature which has shown that most available studies have targeted health workers and people living with HIV/AIDS as their study populations (see Huber & Cruz, 2010; O'Glady, 2008; Gombachika, 2013; Ogunmodede, 2014; Stonbraker & Larson, 2015; Stores, 2016; Lwoga et al., 2017). This implies that researchers in Tanzania think that people who need HIV/AIDS information are those who have already been affected. In other words, the limited availability of HIV/AIDS research that targeted other information users in the country means important details about what HIV/AIDS information is needed by those groups are hardly available.

While this study reports that over the period of 20 years HIV/AIDS information research in Tanzania has focused on various topics; the findings further reveal that more attention has been paid to access and use of HIV/AIDS information and information dissemination. The findings are in line with other literature sources (see Adenuga, 2009; Larson, 2017; Hyera, 2006; Mjule, 2008; Muneja, 2008) that have reported that the topic most focused on was access to and use of HIV/AIDS information. However, the findings go against what has been reported in other literature sources (Huber & Cruz, 2010; O'Grady, 2008; Stores, 2016; Stonbraker & Laison, 2015; Mulungu, 2010; Ogunmodede et al., 2015) that most studies focused on HIV/AIDS information needs. Specifically, the findings have shown that only 5% of studies on HIV/AIDS information carried out in Tanzania between 2001 and 2020 have focused on information needs. Other topics i.e., information seeking behaviours and information awareness were among the least studied. These

topics are very important in the information seeking process; information professionals cannot generate and disseminate information to users without understanding their information seeking behaviour as well their needs. The research's focus on dissemination, access and use brings a raises question regarding the usability of the available HIV/AIDS information in Tanzania.

With regards to challenges reported by the studies, it has been seen that, during the period of 20years, HIV/AIDS information access efforts in the country have been mainly hampered by inadequate information systems and structure, lack of information search skills and lack of information and library services. In general, these findings reflect what has been reported by other researchers (Stores, 2016; Huber & Cruz, 2010; Schoombee, 2009; Ogmudede, 2014; Mbunda, 2012; Mboore, 2007; Rumisha, 2007; Chande, 2014). This can be attributed to similarities in the trends of HIV/AIDS information service landscape in the country and those of other regions of the world.

Study Implications and Limitations

The study has identified a research gap in HIV/AIDS information which will help future researchers in establishing the research focus. The study also will inform policy makers to make adjustments in the HIV/AIDS policy in order to support researchers' HIV/AIDS information studies so as to enable them to cover rural areas. The main limitation of this study is that it has reviewed HIV/AIDS information studies in Tanzania from 2001 to 2020. Moreover, the study focused on publications and citations that were available online and those that had "HIV/AIDS information" and "Tanzania" as keywords in their titles. This means that publications and citations that were not available on the web were not retrieved.

Conclusions and Recommendations

Based on the findings of this study, there is a gap in settings of HIV/AIDS information studies carried out in Tanzania. Findings show that most of the studies were conducted in urban areas than rural areas. Also, most of the studies targeted health workers and people living with HIV/AIDS. On the other hand, the study targeted more health centres and communities as targeted institutions. Further, the topics mostly covered by the studies were access and use of HIV/AIDS information and HIV/AIDS information dissemination. Based on these findings, the study suggests that information science researchers in the country should conduct more studies on HIV/AIDS information to increase the number of studies on this subject area with more emphasis area that have been inadequately covered. Moreover, following this study, it is important that information professionals should come up with a research agenda that will direct research attention to ensuring that HIV/AIDS policy makers have enough accurate and up-to-date baseline data to aid HIV/AIDS management.

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