

*Full Length Research Paper*

# People living with HIV/AIDS and the utilization of home-based care services

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Namibia is one of the most affected countries by human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) epidemic in the world and in the sub-Saharan Africa with an adult prevalence of 19.7%. The health care services are overstrained with patients and home-based care (HBC) is seen as a possible solution to the overstrained health care services in Namibia and this challenge impact on the quality of care on people living with HIV/AIDS (PLWHA) receive. This study assessed the utilization of HBC service, knowledge and perceptions of PLWHA toward HBC services. This is a qualitative study that utilized focus group discussions (FGDs) for the home-based caregivers of the HBC and in-depth interview with HIV/AIDS patients accessing antiretroviral treatment (ART) at Katima State Hospital, Namibia. A total of 4 FGDs were organized with caregivers comprising 31 adult participants (15 male and 16 female) and 18 in-depth interviews were conducted for PLWHA patients ART at Katima State Hospital. All FGDs were tape recorded and one-to-one interview was hand-written. The study demonstrates that most of the participants have positive attitudes toward utilization of HBC service. However, few participants are still afraid to disclose their health status. In general, the community participation has tremendously reduced stigmatization. The access by HBC to nutrition support possibly played a role in reducing the stigma associated with HIV and has increased the number of people utilizing the HBC service. The HIV-positive participants valued the assistance received from the HBC volunteer caregivers and dressing code of volunteers did not influence participant's attitude to access the HBC service. Knowledge about HIV and HBC service enhanced the positive attitude towards the utilization of HBC service which consequently reduced the stigma associated with HIV infection.

**Key words:** Home-based care, volunteer caregivers, utilization, knowledge, perception.

## INTRODUCTION

The Southern Africa region is believed to be home to 32% of the world's population living with human immunodeficiency virus and acquired immune deficiency syndrome (PLWHA) and accounts for 34% of all acquired immune deficiency syndrome (AIDS) deaths (UNAIDS, 2008). The majority of adults (age 18 or higher) living with human immunodeficiency virus (HIV) are women

(UNAIDS, 2008). The impact of mortality due to HIV/AIDS has given rise to lower life expectancies, higher death rates, lower population and growth rates and more changes in the distribution of population by age and sex than expected. In sub-Saharan Africa alone, the epidemic has orphaned nearly 12 million children aged less than 18 years (Uys, 2002; UNAIDS, 2008).

According to Namibia's population and housing survey census, Namibia has a population of over 1.8 million people and has an annual growth rate of 2.6%. It has a relatively young generation aged less than 15 years accounting for 43% of the population and only less than 4% are over the age of 65 years (Namibia Central Bureau

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of Statistics, 2002; Namibian Ministry of Health and Social Services, 2006). Namibia is one of the countries with the highest HIV/AIDS prevalence rates. The prevalence is about 20% and Caprivi region is the hardest hit with a prevalence of 43% (Namibian Ministry of Health and Social Services (MOHSS), 2004). At the end of 2003, there were 210,000 estimated PLWHA in Namibia, or more than one in 5 adults. Although recent evidence shows a possibility of decline in the prevalence, the epidemic already posed significant challenges to this middle-income country, with high levels of unemployment and income disparity as these may further increase the spread of diseases such as HIV/AIDS (UNAIDS, 2008).

The HIV epidemic is affecting every aspect of the Namibian society (Namibian MOHSS, 2006). The impacts comprised of a reduction in the population growth rate, alterations to the demographic structure of the population, economic losses through a reduction in gross domestic product (GDP), as well as broader societal change as a nation comes to terms with its losses and the need to care for the HIV infected and affected people becomes visible.

Although the first case of AIDS in Namibia was identified in 1986, the disease has since become an extremely serious public health problem and remains one of the major challenges to the country's socio-economic development. Namibian's high risk for HIV/AIDS groups includes mobile populations (migrant workers and truck drivers), young women and girls along transportation routes, sexually active youth, uniformed service members and commercial sex workers (Namibian MOHSS, 2006; Campbell et al., 2007).

The MOHSS conducted a National Demographic Health Survey in 2000 (NDHS) on the 13 regions and reported that 95% of the respondents in the Caprivi region said they never had a family member who had died of AIDS but they attributed most deaths to witchcraft (Namibian MOHSS, 2001). This shows that there is a high level of denial among the general population. There are still people who prefer to consult traditional healers for treatment than going to the hospitals or clinics. Due to the high unemployment rate and poverty, women end up having sex with men in exchange for money. Multiple partner relationships are still being practiced in the region, while some men have more than one wife and other sexual partners. Male have more control of sexual relationship than women (Namibian MOHSS, 2006). More than half of the adolescents in the region have been reported to be involved in sexual relationship, which includes 3.1% of those below 10 years (UNAIDS, 2008; Namibian MOHSS, 2006).

It is reported that Namibia has over 15000 children living with HIV and over 5700 have been orphaned by AIDS (UNAIDS, 2008). HIV and AIDS have become the number one cause of deaths in Caprivi region and many families are left without breadwinners. Health facilities are overcrowded with patients resulting from HIV related-

cases (UNAIDS, 2008).

In 2003, the Namibia MOHSS signed an agreement with Bristol Myers Squibb (BMS) company and secure the future foundation (STF) for the implementation of antiretroviral therapy at Katima Mulilo State Hospital under the programme called "Mapilelo project". It was a 3-year programme sponsored by BMS and STF aimed to deliver highly active antiretroviral treatment (HAART) and prevention of mother to child transmission (PMTCT) services. The community-based support structures like home-based care (HBC); food security, voluntary counseling and testing (VCT) and social mobilization were also initiated. The goal of the Mapilelo project was to promote community acceptance and support the PLWHA and also to promote community-based services including psychosocial support through VCT and support groups.

In 2005, Katima State Hospital had link with community-based structures for the support of patients on antiretroviral treatment (ART). Patients are usually referred to either the community health centres or hospitals and the formal method of referral is by sending patients with their health passports. This is not a strong approach of referral as some of the patients would not reach the referral point due to many factors like fear of being stigmatized by other members of the community.

The under-utilization of HBC programmes or services by the communities has resulted in the overcrowding of the only state hospital in the region, which has also led to an increase in health care expenditures, burnout of the healthcare providers and poor quality of health care service delivery. Most patients are not willing to be nursed at home by caregivers. The initial problem of HBC was due to the fact that there was still high degree of denial from some community members who perceive that the hospital was the best place where care should be provided (Namibian MOHSS, 2001).

Caprivi region (study setting) is situated in the extreme north-Eastern part of Namibia, about 1,300 km from the capital city Windhoek and is the only point in Africa where 5 countries (Angola, Botswana, Namibia, Zambia and Zimbabwe) meet, which contributes to the complexity of the region in terms of cross border activities. The antenatal HIV rates in the bordering towns are 45% in Victoria Falls/Zimbabwe; 40% in Kasane/Botswana and 31% in Livingston/Zambia, respectively. Caprivi region has the highest HIV prevalence in Namibia (39.4%), compared to the country's average rate of 19.6 % (Namibian MOHSS, 2006).

Caprivi has a population of 90,444 people according to the population projection of 2008. The influx of people to Caprivi from foreign countries is very high, including the truck drivers who use the Trans-Caprivi highway from the port of Walvis Bay to other Southern African Development Community (SADC) countries. This has escalated the situation as the bridge joining Namibia to Zambia was recently opened. The diversified customs

and traditional beliefs (such as witchcraft) tend to affect the communities' perception towards HIV/AIDS and HAART, which are also predictors of poor adherence to the ART programme. The general population is non-literate and this is thought to be an important factor in their view about HIV-infection, treatment and adherence (Namibian MOHSS, 2006).

This study was therefore designed to assess the utilization of HBC services by PLWHA in the Caprivi region in Namibia, assess the knowledge and perception of PLWHA towards HBC services and assess the view of home-based caregivers toward HBC services. It is hoped that the results from this study could assist the programme managers come up with appropriate approaches on how to create community awareness so as to increase the uptake and utilization of HBC services in the region and nationally.

## METHODOLOGY

### Study design

This was a qualitative study that utilizes the focus group discussion (FGD) of care givers and one-to-one interview with PLWHA. This exploratory qualitative study was conducted using two methods, FGD of the home-based caregivers (who are volunteers from Namibian Red Cross Society) to know their views and attitude about HBC service and a one-to-one interview with clients who are HIV positive patients accessing medical services at Katima Mulilo hospital at the antiretroviral clinic to assess their knowledge and perception towards HBC services.

The FGDs refer to qualitative method that gathers people of homogenous background or experiences to discuss a specific topic of interest to the researcher (Dawson et al., 1993). Key informants are PLWHA who access antiretroviral therapy at Katima Mulilo State Hospital. The interview guides (semi-structured questionnaire) were pre-tested in a FGD role play, conducted on the first day of research orientation session at Mapilelo clinic. The investigators explained to participants (4 PLWHA and 3 volunteers) the aim of pre-testing the questionnaire. At the end of the session, some adjustments were made to the certain some words/questions in the local language version of the questionnaire. The investigators conducted 2 extra sessions with the moderators and the field assistants afterwards. All the members of the field team were contacted in advance and investigators had to explain their roles, the purpose of the study and how he intends to collect data. Members selected to be part of the research team were: a registered nurse who once conducted a FGD in a qualitative study on factors influencing adherence to antiretroviral drugs in the resource limited setting in the Caprivi region. Two community counselors: a male as an assistant moderator and a female as an observer for the first FGD. A volunteer male as an observer for the second FGD; a medical doctor from ART clinic to be part of orientation and to organize the role play of FGD and a medical and HBC coordinating officer from the red cross society (RCS) to be part of the team and helped to organize the people to be interviewed.

### Orientation meetings

A second meeting was conducted 3 days before the volunteers' refresher training in preparation for data collection. The purpose of

the orientation was explained and guidelines for FGDs were presented by the investigators to the team and some input from the group were made and corrections were made where necessary. Issues discussed were consent forms, confidentiality, respect of people's opinion, not to be judgmental about participant's views and opinion, freedom of participation, review of equipment to be used for recording and the camera for video. A FGD was designed and team members were participants and specific numbers allocated for participants' identification.

### Field session report

The researchers explained in detail the issue of consent form with the help of a translator in the Lozi language and 8 participants were selected per group. Two groups were selected: one for male (7 male) and another for female (8 female) to allow people to speak freely. Participants were informed on the issues of confidentiality, freedom of participations and freedom of expression and respect of time. The FGD took about 45 to 60 min and all interviews were tape recorded. Participation was voluntary and only consented individuals participated in the FGD and interviews.

### Study setting

The study was conducted in the Caprivi region in Namibia, the North eastern part of Namibia. The FGDs were conducted at Cheshire home. The Cheshire home is a catholic conference centre situated 3 km outskirts of Katima Mulilo town along the Zambezi River. The Cheshire home has conference facilities and dormitories for accommodation. The one-on-one interview was conducted at the ART clinic (Mapilelo clinic) within the Katima Mulilo State Hospital. It is an outpatient clinic open from 8h00-17h00 h, Monday to Friday and manned by 4 doctors, 4 nurses, 1 data clerk, 2 administrative clerks and 2 pharmacists. The clinic caters for all HIV-positive patients and babies from HIV-positive mothers from all over the region. Mapilelo HBC service is managed by Namibia Red Cross Society (NRCS).

### Study population

The first target population group was all PLWHA accessing care at Katima Mulilo ART clinic who have or not benefited from HBC services and represent participants who took part in the interview and were aged between 20-65 years.

The second target population was the group of adult caregiver's age between 19- 45 years who have nursed one or more PLWHA in their homes and had received training on HIV/AIDS and HBC. They are volunteers working for NRCS HBC services.

### Sampling technique and size

The study participants in the FGD were recruited from the NRCS volunteers attending refresher training at Cheshire home and participants of one-to-one interview where recruited at the Mapilelo clinic as they come to collect their medications or follow up visit. Purposive sampling was used to select the caregivers using the criteria: (a) a trained volunteer who provided care at least once to a patient or family member infected with HIV and AIDS, (b) a volunteer who had been involved in HBC, (c) willingness to participate in the discussion/interview. The participants of the FGDs were purposeful sampled during a training organized for this purpose. A total of 15 participants agreed to participate in the study: 7 males and 8 females on the first training and 16 for the second

**Table 1.** Gender distributions of respondents.

Gender	FGD		Interview	
	N	%	N	%
Female	16	51.6	10	55.6
Male	15	48.4	8	44.4
Total	31	100	18	100

training: 8 males and 8 females. A total of 4 FGDs were organized comprising of 31 participants (16 female and 15 male).

For the one-on-one interview, the participants were sampled purposively as they came for their daily follow-up clinic visit, until the saturation of data was reached. 18 patients who had been diagnosed with HIV and AIDS and receiving care and treatment at Katima Mulilo State Hospital ART clinic accepted to participate in the interview. There were 10 female and 8 male.

#### Data collection and tools

The discussion with caregivers was recorded using a tape-recorder and then transcribed. The participants spoke in their local language as it was difficult for some of them to express themselves in English. A translated questionnaire guide was used to guide the discussion. A total of 4 FGDs were formed, 2 FGD were conducted on the first training. The other 2 FGDs were conducted at the second training (male and female groups). The sessions lasted 45-60 min depending on the respondent. The one-to-one in-depth interviews with patients used open ended questions. The choice of language of questionnaire to be administered was given to the clients. Questionnaires in English were used for clients who feel comfortable to speak English and the translated questionnaire in local language was used for clients who could only speak the local language. All tools, including consent forms and questionnaires were translated into the local language by a bilingual expert.

#### Ethical considerations

The study was approved by the Research and Ethical Publications Committee (REPC) of the School of Public Health and Medical Ethics and Research Committee (MCREC) of University of Limpopo. Permission was sought from the Permanent Secretary in the MOHSS in Namibia to conduct the research at Katima Mulilo State Hospital. The Permanent Secretary of the Ministry of Health in conjunction with the Principal Medical Officer of Katima State Hospital granted the permission to conduct the study. A written/oral informed consent was obtained from all participants after the study goals and objectives were explained to them. The informed consent form was translated into local language (Lozi) by a bilingual expert.

## RESULTS

Although all caregivers are trained to provide HBC service but require more adapted training to be able to cope with the need of the patients on ART medications as all patients must first go to the hospital to start treatment before being sent home for continuity of care.

The FGD were classified as group 1, 2, 3 and 4. Focus group 1, the first focus group of 8 female participants and

all members participated well during the interview. Focus group 2, a group of 7 males were more active and more informative. Focus group 3, second female focus group with 8 participants while focus group 4, second male focus group consisted of 8 males. The participants of one-to-one interview were numbered 1 to 18. The experience of caregivers and knowledge of PLWHA are discussed below.

#### Participants' demographic data

##### Gender distribution

A total of 31 participants (15 male and 16 female) took part in the FGDs sessions while 18 participants took part in the one-to-one interviews as shown in Table 1.

##### Age distribution

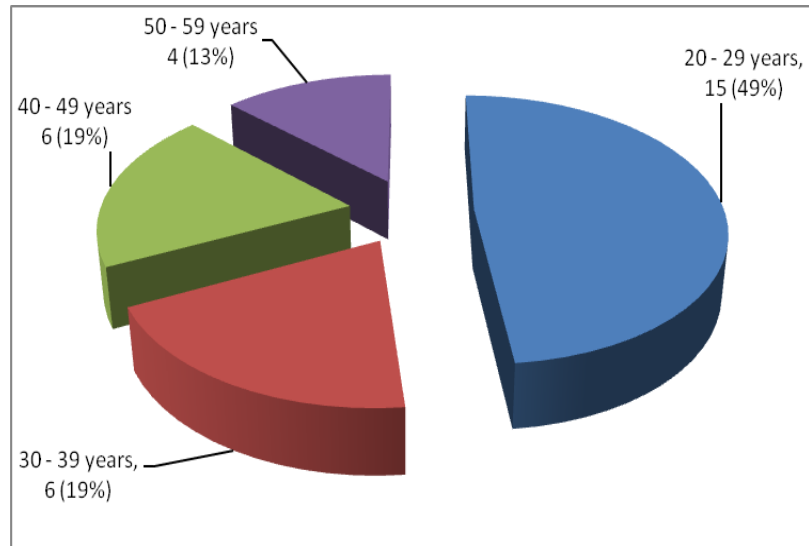
The FGD were conducted with adult respondents of 20 years and above. The average age was 34 years and the age distribution is shown in Figure 1. For those who participated in one-to-one interviews, the average age was around 38 years and the age distribution is shown in Figure 2.

##### Educational levels of respondents

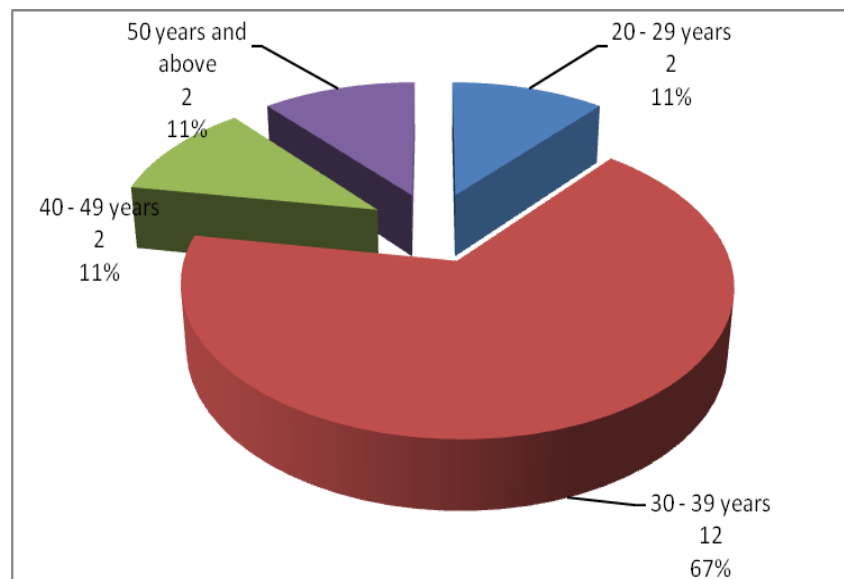
With regards to educational level, only 10% of respondents to FGD had grade 10 school certificates while the majority of participants were unemployed but doing subsistence farming. They came from different villages in the Caprivi region. Among those who participated in one-to-one interviews, the highest level of education was grade twelve school level, and 26% of these participants were employed (Table 2).

##### Other socio economical characteristics of respondents

The majority of participants were single while a few were married or staying together with their partners.



**Figure 1.** Age distribution of respondents to FGD (n=31).



**Figure 2.** Age distribution of respondents to interviews (n=18).

**Table 2.** Educational levels of respondents.

Level of education	FGD		Interview	
	N	%	N	%
No. of education	9	29	3	16,7
Primary	19	61,3	9	50
Secondary	3	9,7	6	33,3
Tertiary	0	0	0	0
Total	31	100	18	100

### **Understanding and importance of HBC services**

Most of the volunteer caregivers and HIV-positive participants were able to define HBC service as a service which is given in the home environment to patient discharged from the hospital and in need of continuity of care through education, psychosocial, physical support by coaching and mentoring the family in caring for their patients. Some of volunteer caregivers task have been listed as: Knowing when to refer the cases, where to refer them and sometime accompanying the patient to clinics or hospital; provide basic nursing care, emotional support and addressing stigma among other family members and community. The education and awareness about HIV disease conducted by volunteer caregivers has made community to change their attitude, risk behavior and reduce government expenditure on health care

### **Community beneficiaries from HBC services**

Many participants from FGDs and interviewees' participants reported that most people utilizing the service were PLWHA, patients with Tuberculosis and bedridden patient who do not have proper care from relatives. Also orphans and vulnerable children are beneficiaries including senior citizens. It was further reported that victims of flood and disabled are beneficiaries HBC services. Study participants reported that the communities' benefits a lot from the service: Reduction of expenditure in transportation, improvement of knowledge and care. In addition some participants argue that benefit is reciprocal between volunteers and patients; the more information and education person receive the more he adopt healthy behavior: Patients express their satisfaction in the way they were treated and supported by HBC volunteer caregivers.

### **Acceptance of the HBC services**

In general, the caregiver expressed their satisfaction in terms of how the community appreciates their service: improved their knowledge and understanding of HIV disease but few participants felt that some members of the community are not willing to be nursed at home.

### **The formation of support group for PLWHA**

The PLWHA with their primary family care providers formed some support group which facilitates access to care health service.

### **The service is appreciated by the traditional authority**

Some respondents noted that there were people in the

community who do not appreciate their work for different reasons: some are jealous; others fear to disclose their status and stigmatized.

### **Challenges of volunteers**

The FGDs participants expressed their satisfaction as more people who were sick get better. They also value the training provided by the RCS to enable them to undertake their duties with confidence, however, they are faced with a few challenges. Stigma plays a role in the type of care patient receive from their own relatives. The volunteers perceive that their work lacked recognition and it is undervalued by the government. All the caregivers complained of not being considered for any incentives or any form of payment. We also identified lack of communication among caregivers. The problem of provision of care arises when there is a lack of communication and cooperation between care providers.

### **Services supporting PLWHA**

Most of participants in the FGD and on the in-depth interview enumerated different support structures to support PLWHA.

### **Suggestion for HBC services improvement**

It was noted that caregiver volunteers needed more skills for them to give proper care and on how to approach the patients. Furthermore, an interviewee wish that the HBC service be established all over the country as it reduces their transportation cost and improves quality of life of the patients.

## **DISCUSSION**

The findings of this study showed that FGD participants have good understanding and knowledge about HBC services and that has facilitated the positive attitude towards the HBC service. The importance of the service was noted by the patients and volunteers and this probably explains the reason for its acceptance by the community. Similar findings were noted by Van Graan et al. (2007) where (91.6%) of subjects were knowledgeable about HBC and 88.7% showed favorable attitude towards HBC services.

The home caregivers group is the most vital resource in relation to HIV/AIDS management in villages as it is the promising group to lead community-led effort to facilitate more effective local response to HIV/AIDS (Campbell et al., 2007). The results of this study showed that discrimination is considered as favoritism and tribalism

not as rejection due to HIV status. For the participants, discrimination means not to be given what you are entitled to receive as a patient.

The traditional authorities (Induna's) appreciation and understanding of the role of the HBC has made volunteer work easier for accessing people homes which is seen as a sign of acceptance of the service (Williams, 2004) but fear, shyness is a stumbling block to other people to be nursed at home and it is worsened by patients relatives who do not want the service.

The dress code of volunteer was perceived as having a negative impact and interpreted as a disclosure of people's HIV status. However, most patients appreciate the psychosocial, physical and moral support from the home-based caregivers.

The HBC has made a change in the perception that HIV/AIDS was a death sentence; however, due to availability of information about HIV/AIDS, people are able to access the antiretroviral medication and improve their quality of life. Similar findings have been reported by Benedetti et al. (2004) and Crook (2005).

The community meeting where HBC volunteers are given the opportunity to discuss issue of HIV is a platform of sharing and learning from each other and clears some of misconceptions. Volunteers perceive that patients do not accept home visits because of stigma and it will alert the community of their status (Beukes, 2005), but in the contrary no patients have raised the same concern.

The general feeling from the patients interviewed is that they appreciate home nursing care compared to hospital care as it is the best method of care; this is contrary to the findings reported by the Namibian MOHSS (2001). Lack of remuneration to motivate volunteers can impact negatively in quality of care (UNAIDS, 2008). The volunteers expressed their views that they should be part of the Ministry of Health and be remunerated as public servants since they provide care to PLWHA on behalf of the government. Their other argument is that some of the nurses' jobs have been transferred onto them and hence deserve a decent remuneration. The role of these volunteers has been to counsel, educate and facilitate patients to access the local clinics and hospital and to play a role of mediator between the health facility and the community. An important role of volunteer caregivers is to link patients and their families with different resources like hospitals and nutrition support (Uys and Cameron, 2003).

It is anticipated that the government would recognize the role of the HBC service and therefore employ them on permanent basis as the integration of HBC in the era of HIV is intended to reduce the economic and human resource pressure, which is a burden to the health care systems especially hospitals (Makoae and Jubber, 2008). Although it has been difficult for government to incorporate volunteers into the civil service (Young et al., 2002), however, study has shown that paying a salary to a home-based care volunteer will improve the time for follow-up of patients (Jakobsson et al., 2007).

The study showed that there are many challenges facing care givers such as lack of transport, walking long distance on foot without adequate food, lack of first aids and lack of remuneration to sustain their families (Campbell et al., 2007).

For the PLWHA interviewed, stigma was not a problem for accessing HBC compared with previous studies where stigma was an obstacle for patients to access HBC (Smith and Morrison, 2006; Demmer, 2007). The majority of volunteers are female (Van Graan et al., 2007) and are facing problem to educate men as the culture in the region do not allow women to stand in front of men and discuss sexuality. This impacts negatively on the prevention strategies as the HBC services have more women than men. It is a duty of non-governmental organizations (NGOs) and government to put in place strategies for motivating male involvement in this service. The role of HBC service must change as many people who are nursed in their homes after taking antiretrovira (ARV) medicines are feeling better and able to do their daily activities and the focus should be the prevention strategy combined with home care.

The expectation of the community about HBC is very high; people are expecting money and other items from the service as the service is a public generosity programme (Stabile et al., 2006; Smith and Morrison, 2006). It should be noted that education level makes people not to be attached to home-based care as the person is more educated in the community as it will be difficult for that person to listen to HIV message from people less educated than him. No participant perceived HIV-infection as being caused by witchcraft. The Ministry of Health and different NGOs dealing with HBC service should be encouraged to continuously tailor their training to the current needs of communities.

For the HBC service, the channel of communication between different HBC structures should be followed correctly. Undermining of volunteers' responsibility by their supervisor has created dissatisfaction and hinders the provision of service. The training of volunteers require to be improved as suggested by other participants especially on methodology of approaching patient home and volunteers should be empowered by building their capacity on pain management and aseptic measures.

## Conclusion

The good understanding and proper perception towards HBC has led to utilization of service by the community of the Caprivi region. The acceptance of the service by the community was due to health education and awareness campaign conducted by HBC volunteers. The improvement of community knowledge about HIV and HBC has enhanced the positive attitude toward utilization HBC service. There was reduction in the number of patients who reported stigma as hindrance to accessing

HBC. While HBC plays a role in relieving the burden of caring duties of government hospital, it requires recognition and support from the government. The self-report health status to the HBC givers and access to nutrition support may have played a role in reducing the stigma attached to HIV and increasing the number of people utilizing the HBC service. Studies to identify patients' satisfaction and quality of service provided by caregivers are recommended.

## RECOMMENDATIONS

It is advised that that government should create more awareness about HBC service and its role in improving the quality of life of PLWHA and the involvement of the community in mobilization which could facilitate the access of communities to HIV interventions. There is a great need to intensify and update the training curriculum of volunteer care givers to improve their skills and knowledge. The community education to address prevention and reduce stigma should be encouraged and intensified. The distribution of goods must be conducted with transparency to avoid any accusation of tribalism and nepotism which hinder utilization of HBC service by some members of the community. There is a need to increase home-based care services coverage in the areas where there are no services. As ART medication improve quality of life of the patients, the value of home-based care should focus on assisting people to adhere to their life-long medication, avoid resistance and prevent new infection and as the effect of stigma and discrimination decreases, effort of integration and good collaboration between the government, NGOs and community should be promoted to advance and sustain home-based care. The success of community mobilization and accessibility depend on how much of traditional authority structure is involved. Also, the vision of the service should also be oriented to the prevention of HIV infection rather than caring for those who are sick. Advocacy is required to improve the working condition of volunteer caregiver's home-based care by policy markers. The collaboration between different stakeholders will advance and sustain the HBC service focusing on prevention of HIV infection and should be encouraged.

## Study limitations

The small sample size prevents generalization of the findings to the entire population of Caprivi or Namibia.

## ACKNOWLEDGEMENT

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**Abbreviations:** **HIV/AIDS**, Human immunodeficiency virus/acquired immune deficiency syndrome; **HBC**, home-based care; **FDGs**, focus group discussions; **GDP**, gross domestic product; **MOHSS**, Ministry Of Health And Social Services; **NDHS**, National Demographic Health Survey; **BMS**, Bristol Myers Squibb; **STF**, secure the future foundation; **HAART**, highly active antiretroviral treatment; **PMTCT**, prevention of mother to child transmission; **VCT**, voluntary counseling and testing; **SADC**, Southern African development community; **RCS**, Red Cross Society; **NRCS**, Namibia Red Cross Society; **REPC**, Research And Ethical Publications Committee; **MCREC**, Medical Ethics And Research Committee; **NGOs**, Non-Governmental Organizations; **ARV**, antiretrovira.

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