HOME-BASED CAREGIVERS' KNOWLEDGE REGARDING ANTI-RETROVIRAL THERAPY IN NAMIBIA

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Abstract. Lack of practical knowledge among home-based caregivers (HBCs) on HIV/AIDS, anti-retroviral treatment (ART) and poor individual adherence to treatment are among the root causes of ineffective ART service delivery in Namibia. The purpose of the study was to investigate the knowledge of HBCs in Namibia regarding ART. The study was a descriptive, cross-sectional study in which 89 participants completed self-administered questionnaires to assess their knowledge regarding ART. Knowledge of HBCs on ART was above average in some aspects, there was still lack of knowledge on necessity of post-test counseling. Training organizations should put emphasis on the necessity of post-test counseling, consequence of poor adherence and type of facilities that issue ART.

Keywords: HIV/AIDS, anti-retroviral therapy, knowledge, home-based caregiver, Namibia

INTRODUCTION

Sub-Saharan Africa remains hardest hit by HIV/AIDS and bears the highest burden of the epidemic globally (UNAIDS, 2009). Over two-thirds (67%, 22.4 million) of all people who are living with HIV and nearly three-quarters (72%) of AIDS related death occurred in this region in 2008. In Namibia, an estimated 200,000 people were living with HIV/AIDS, with an adult prevalence rate of 15.3%. This is a situation of concern that calls for the participation of all health care workers, faith-based organizations, civil society counselors, volunteers, and knowledgeable people at the community level, such as home-based caregivers (HBCs).

The home-based care guideline in Namibia stipulates comprehensive knowledge requirements for HBC on HIV/AIDS useful at the community level. That is basic information on HIV/AIDS, which includes the definition of HIV as Human Immunodeficiency Virus. The modes of transmission are clearly stipulated ranging from unprotected sexual intercourse, transmission through blood transfusion and through contaminated instruments, such as needles and skin piercing instruments; as well as transmission from an infected mother to child (Namibia Ministry of Health, 2001). HBCs need to be able to differentiate HIV from AIDS. This includes the knowledge about the importance of an HIV test, the meaning of HIV positive and negative results, opportunistic infections, basic nutrition for

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an HIV/AIDS person, and positive living (Namibia Red Cross Society, 2001). In anti-retroviral treatment (ART), knowledge and skills are necessary to become a successful caregiver, and these can be expanded to include components, such as provision of care, adherence, counseling and support, as well as knowledge of referral networks, and fostering disclosure (Horizons Program, 2006).

A study done in Uganda suggested that people who lacked correct information or whose thinking is based of myths about the modes of transmission of HIV develop negative attitudes, including blame placing, stigmatization, discrimination. Therefore, it is important that home-based care providers are knowledgeable so that misinformation among community members and HIV patients can be minimized (UNAIDS, 2003). Participants at the UNESCO/WHO conference on the HIV treatment agreed that treatment education could be seen as forming the bridge between the provision of treatment and the involvement of all HBCs in the community. Therefore, home-based care volunteers require adequate education and training in HIV prevention, treatment, and care (UNESCO, 2006).

The knowledge and practice of HBCs play a vital role in mobilizing communities to access health care services for information on HIV/AIDS and treatment (Horizons Program, 2006). Lack of practical knowledge among HBCs on HIV/AIDS, ART, and poor individual adherence to treatment are among the root causes of ineffective ART service delivery in Namibia. This results in a high defaulter rate and increased HIV/AIDS related morbidity and mortality, which are estimated to have about 16,000 to 32,000 persons on ART (Ministry of Health and Social Services, 2008). The devastating epidemic of HIV/AIDS has resulted in an increase in the demand for care. Thus the purpose of the study was to investigate the knowledge among HBCs in Namibia regarding ART.

MATERIALS AND METHODS

Study design and settings

This was a cross-sectional, descriptive, quantitative study. The study was conducted in two faith-based organizations in Windhoek, Namibia; *ie*, the Evangelical Lutheran Church care program and Catholic AIDS Action care program.

Study population

The study population consisted of all (89) HBCs working in the two faith-based organizations (67 HBCs from Catholic AIDS Action for the Roman Catholic Church and 22 HBCs from the Evangelical Lutheran Church care program in Windhoek). All the eighty-nine HBCs were invited and participated in the study.

Ethical consideration

Ethical clearance for the study was obtained from Medunsa Campus Research and Ethics Committee of the University of Limpopo (MCREC/PH/112/2007: PG). Permission to conduct the study was obtained from the Lutheran Church board and the management of the Roman Catholic Church as well as the Ministry of Health and Social Services, Namibia. Informed written consent of participants was obtained. Confidentiality of participants was maintained at all times. To further maintain confidentiality, no identifiers were used in the questionnaires. Participation was voluntary and participants were informed that they could withdraw from the study at any stage of the interview if they so desire without any penalty.

Data collection instrument and data collection

A structured closed-ended questionnaire was used to collect data. The questionnaire was divided into two sections. The first section was on demographic characteristics and the second section was related to ART.

Validity control measures were handled through consultation with three experts in the field of research in the Ministry of Health and Social Services, Namibia and the University of Namibia, as well as consultation with the supervisor at the University of Limpopo. These experts assisted with the verification that the content of the questionnaire reflected what was to be measured. All questions were clear and understandable in order to avoid any inconvenience during the time of data collection. Ten questionnaires were then pre-tested on HBCs in different organizations, *ie*, AIDS Care Trust and Namibia Red Cross Society. The outcomes were used in the modification of the tool in order to ensure reliability.

The questionnaires were handed over to the respondents at the centers (known as home-based care center) where they usually gather before attending to their fieldwork by the third author. Some groups of HBCs were accessed during their yearly report meetings with the home-based care coordinators and questionnaires were distributed after the meetings. Questionnaires were handed back upon completion at the same time. The questionnaires were handed over every second day in three weeks and that was done to cater for the HBCs who were not available in the first week. The tool was designed in English because all targeted HBCs were literate in English.

Data analysis

Data were checked for completion, cleaned and entered onto the Microsoft Excel©2003 spreadsheet and imported to SPSS 17.0.1 for Windows© version for analysis. The analysis results of participants' demographics and baseline outcome variables were summarized using descriptive summary measures expressed as mean (standard deviation) or median (minimum-maximum) for continuous variables and percent for categorical variables.

RESULTS

Table 1 shows the socio-demographic information of the respondents. Over three-quarters (75.3%) were females; 79.8% was below the age of 40 years. Two respondents did not mention their educational level, and 66.7% received secondary education. The majority (86.5%) had received training as HBCs. Among those who received training, 48% received training for less than one month. Six participants did not indicate their years of experience, and those who did indicate it, more than half (62.7%), had little experience (1-5 years) as an HBC. Five HBCs did not answer about the refresher course they had or had not attended, which provides current information about HIV/AIDS and ART, and it was found that 69% attended a refresher course after 6-10 years of training. A little less than one half of HBCs (48.3%) belonged to the Lutheran church.

Knowledge of HBCs on ART

Thirty-three point seven percent of respondents did not know that post-test counseling is done when the test result is available. Most HBCs (87.6%) knew the attributes of a good adherence counselor, and 82% had knowledge on counseling as a strategy for ART. Eighty-two percent of the respondents knew that ART is issued in hospitals, and 48.3% incorrectly mentioned that home-based care centers also

Table 1
Socio-demographic information of the participants (N = 89).

Variables	*n*	%
Sex		
Female	67	75.3
Male	22	24.7
Age group (in years)		
20-30	28	31.5
31-40	43	48.3
41-50	11	12.4
>50	7	7.8
Education level		
Primary	20	23.0
Secondary	58	66.7
Tertiary	9	10.3
Trained as a HBC		
Yes	77	86.5
No	12	13.5
Duration of training		
Weeks	37	48.0
Months	30	39.0
Years	10	13.0
Experience as a HBC (in years)		
0-5	52	62.7
6-10	26	31.3
11-15	4	4.8
>15	1	1.2
Refresher course attended after years of HBC training		
1-5	20	23.8
6-10	58	69.0
11-15	5	6.0
>15	1	1.2
Religion		
Lutheran	43	48.3
Catholic	26	29.2
Other	20	22.5

issue ART. In responding to what constitutes healthy foods for patients on ART, 87.6% of HBCs knew that healthy food for patients on ART treatment includes a high protein diet. When asked about the reasons why alcohol should not be taken with ART, 92.1% knew that alcohol interferes with ART drugs, while 5.6% thought that it increases the immune system. Eighteen percent incorrectly indicated that a safe way to keep ART medication is in direct sunlight, or mixed in one box, or kept anywhere in a room. Responding to what should be done to encourage patients on what to do in the presence of ART side effects, 92.1% knew that they should advise patients to consult a doctor. Approximately one quarter (25.8%) wrongly suggested that ART education decreases universal access to ART treatments, or discourages treatment literacy, or limits coping skills.

DISCUSSION

This study was conducted to investigate knowledge regarding ART among HBCs in Namibia. It was discouraging to learn that 33.7% of respondents did not know that post-test counseling is done when the test result is available. An assumption was therefore made that a high percentage of HBCs lack proper knowledge in this regard, and this may lead to the provision of misinformation in the community.

Most HBCs knew about the most important skills in counseling and using these skills may help clients make correct and informed decisions and commit to their treatments. Good counseling skills play a major role in the success of treatment of a patient. Similarly, paraphrasing and repeating information as part of reflective listening tends to resolve communication difficulties and help patients to develop positive attitudes as well as self-confidence (Kenya Ministry of Health, 2004).

Most HBCs (87.6%) had knowledge of the correct form of adherence to ART treatment. Knowledge of adherence was essential as it helps patients to understand

Table 2
HBC knowledge on ART (N = 89).

Knowledge	*n*	%
Knowledge on post-test counseling		
When the test result is available	59	66.3
Whether a person has tested HIV positive or has tested HIV negative	13	14.6
When a person is tested for HIV positive only	9	10.1
Before a person is tested for HIV	8	9.0
Knowledge of adherence		
Remembering the intervals between doses	78	87.6
Missing one or more dose of a given drug	8	9.0
No response	2	2.3
Missing all days of treatment	1	1.1
Forgetting the dietary instructions	0	0.0
Knowledge of ART strategies		
Counseling	73	82.0
Use of friend or family member supporter	43	48.3
Use of pill counting	33	37.1
Avoiding direct observed therapy (DOT)	6	6.7
Knowledge of ART facility		
Health centers and hospitals	73	82.0
Home-based care centers	43	48.3
Private doctors and pharmacies	33	37.1
Traditional healers residents	6	6.7
Knowledge of healthy food		
High protein diet	78	87.6
Fizzy cool drinks	6	6.7
High fat diet	5	5.6
Cigarette	0	0.0
Knowledge of alcohol		
It interferes with ART drug	82	92.1
It increases immune system	5	5.6
It makes a person to remember taking treatment	1	1.1
Is good for the body	1	1.1
Knowledge of ART safety		
Away from children	73	82.0
Direct to sunlight	6	6.7
Mixed in one box	6	6.7
Kept anywhere in the room	3	3.4
None	1	1.1
Knowledge of ART side effects		
Immediately stop taking all medications	1	1.1
Leave out one medication that is causing side effects	3	3.4
Consult the doctor	82	92.0
Stop going to hospital	0	0.0
None	3	3.4
Knowledge of ART education		
Decrease universal access to ART treatments	16	18.0
Discourage treatment literacy	3	3.4
Increase adherence to ART	66	74.2
Discourage coping skills	1	1.1
None	3	3.4

the effects of medications and treatment outcomes (Kenya Ministry of Health, 2004). If ART is taken over a long time, it may result in viral suppression with improvement in the quality of life and less viral resistance; however, patients generally stop taking ART because of drug toxicities (Over *et al*, 2004; Marfatia and Makrandi, 2005). Studies reported that patients on long-term treatment are more likely not to adhere to treatment, with resultant treatment failure (Park *et al*, 2008; Topi *et al*, 2008). It has also been reported that patients who are younger and those who abuse alcohol and drugs are also less likely to adhere to treatment (Bonolo *et al*, 2008). Patients usually miss doses. It is known that non-adherence is associated with the development of resistance, with a possibility of a future multi-resistant epidemic, and increased mortality (Carmona *et al*, 2000; Glass *et al*, 2006).

It is also necessary for HBCs to have good knowledge of the facilities where ART is issued in order to inform HIV/AIDS patients where to access treatment. Health centers and hospitals were among the well-known facilities (100%) that issue ART medication, while private doctors and pharmacies were less known (46.1%). This was contrary to what was expected: that treatment is more than medication and should include access to health facilities as well as good attitudes of the HBCs (International HIV/AIDS Alliance, 2003).

It is expected that HBCs help clients adhere to specific foods and dietary management (Namibia Red Cross Society, 2001). We found most HBCs had knowledge about the types of food needed by clients on ART treatments. Also, HBCs knew that alcohol interferes with ART treatment. It is the duty of HCBs to provide appropriate advice on specific nutrition and dietary requirement as indicated in the HBC training manual (Namibia Ministry of Health, 2001).

Most HCBs (92%) had good knowledge of how to handle clients who develop side effects to ART treatment. This is very important because this knowledge may be used by HCBs to encourage clients to consult doctors in the case of side effects. The importance of this was also stressed in that HCBs should help with the management of ART side effects and should support adherence needed by individual over time (Parry, 2005).

Noting that almost 73% had knowledge that education is necessary in the roll out of ART with the purpose of increasing adherence was good, as the lack of knowledge among HCBs on ART can contribute to the root cause of high defaulter rate and increased HIV/AIDS related morbidity and mortality (Ministry of Health and Social Services, 2008).

Although knowledge of HCBs on ART was above average in some aspects, there was still lack of knowledge on isolated issues, such as knowledge of the necessity of post-test counseling. Therefore, refresher courses and workshops are needed to update HCBs with correct information. Training organizations in HBC settings should evaluate the curriculum of HCBs to ensure that the content is updated with all the needed information; and emphasize on knowledge about necessity of post-test counseling, the consequences of poor adherence, and facilities that issue ART.

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