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RESEARCH ARTICLE

VILLAGE HEALTH WORKERS' HIV/AIDS KNOWLEDGE AND SERVICE PROVISION AMONG RURAL COMMUNITIES IN LESOTHO

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ABSTRACT

Introduction: For the VHWs to provide meaningful education to the community, they must have adequate information and knowledge about how to help in the improved health outcomes of HIV/AIDS. Research has shown that when VHWs have adequate knowledge of HIV/ AIDS, knowledge will translate to the communities they serve. The main goal of this study is to improve HJV /AIDS treatment outcomes through community health care services in Lesotho. This was achieved by assessing knowledge of HIV amongst the VHWs and the communities they serve in Lesotho. **Methods:** The study used a cross-sectional qualitative survey approach. The assessment was conducted between September and October 2016. Three questionnaires were developed for the household, clinic, and VHWs. Open Development Kit (ODK) collect was used to collect data electronically using tablets and cell phones. Pilot study was done at Ha Mafefooane and Ha Lehloba villages in the Roma Valley for household questionnaire and Paki clinic in Mazenod for VHWs questionnaire. VHWs were interviewed at the clinic when attending their monthly meetings while households were interviewed at the village level. SPSS was used to analyse data and data validation was carried out in all sampled clinics for VHWs questionnaire. **Results:** With regard to HIV knowledge, VHWs' knowledge in Lesotho is inadequate. Less than 40 percent of community members had access to VHWs' services except accessing ARVs where at least 80 percent of community members were helped by VHWs. Health treatment outputs were generally low on the overall. **Recommendations:** It therefore recommended that inadequate HIV knowledge among VHWs has to be addressed through offering of refresher courses on HIV/ AIDS at least once a year to sustain the VHWs knowledge and skill.

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INTRODUCTION

Worldwide CHWs are expected to promote good health practices in the community, through health education in matters that are of concern in the country (Bedelu *et al.,* 2007:176; MOHSW, 2003: 33; Keith *et al.,* 2012: 138; Mwai *et al.,* 2013:7). The most important matters of concern currently in Lesotho are a failure to meet MDGs targets in HIV/AIDS, TB, maternal and child mortality of which a VHW can play a vital role as part of the community member where she lives (Perry & Zullinger 2012:26,27; MOHSW, 2011:4, 6; Rachlis *et al.,* 2014:3).

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For the VHWs to provide meaningful education to the community, he/she must have adequate information and knowledge about how to help in the improved health outcomes of HIV/AIDS (MOHSW, 2003: 33; MOHSW, 2011:4; Keith *et al.,* 2012: 138) hence the need to establish the level of knowledge of VHWs against their curriculum. It is equally important to establish if VHWs had access to refresher courses to periodically revive their knowledge. The criteria used for selection of VHWs is stipulated in MOHSW training manual and is in line with practices in other countries (MOHSW 2011:8; Crigler *et al.,* 2011). According to the criteria for a person to be selected he/she must be a full time resident of the village with no other responsibilities. He/she must be elected by the village itself, and be literate. He/she should have gone through a 6-week village health worker training programme of MOH and must attend refresher courses as and when provided

(Crigler *et al.,* 2011; Rachlis *et al.,* 2014:3). He/she must be in good health and be an adult between the ages of 25-70 years of age. VHW must have the following attributes: be a dedicated, trainable, and respected member of the community. He/she must be a person who maintains confidentiality and can work on voluntary basis (MOHSW 2011:8; Rachlis *et al.,* 2014:3). In Lesotho, VHWs are seen as a member of primary health care team and he/she is trained and supervised by a nurse from the nearby clinic or health centre (Crigler *et al.,* 2011; Kumar. *et al.,* 2014:10). He/she serves as a link between the community and primary health care facility (MOHSW 2011:14).

VHW recognizes, refers, and organizes follow-up of HIV/AIDS (Khabo *et al.,* 2013). He/she keeps patient records and report monthly activities to the health centre nurse. He/she co-operates with development extension workers (Kumar. *et al.,* 2014; Rachlis *et al.,* 2014). An in-depth analysis of CHWs by Perry & Zullinger (2012: 1) found out that CHWs work under varied conditions and have a wide range of work environments and expectations. There are disparities in the time taken to train VHWs where some have only a few days of training, while others have six months or even more of training. Training of VHWs in Lesotho is stipulated in the VHWs training manual by MOH. For someone to qualify as a VHW, he /she must have completed a six weeks training using the MOH training manual (MOH 2011; Rachlis *et al.,* 2014:3). Competency of VHW has to be measured and be improved through refresher courses for them to provide expected services (PIH, 2011; Rachlis *et al.,* 2014:3; WHO 2010: 45). Education for CHWs should include training on the more logistical aspects of their jobs, such as household entry, community sensitization, data collection and recording, and relevant ethical issues mainly on how to maintain confidentiality (Rachlis *et al.,* 2014:9).

In 2003 Lesotho came up with essential service package which specifies the role of VHWs while in 2011 revitalisation of health services strategy was established. These two strategies clearly specify the role of VHWs. Accordingly, health centre nurse has to provide supportive supervision to the VHWs and ensure that records are kept and available for inspection (MOHSW, 2011; Kumar. *et al.,* 2014: 13 There should be an organogram for VHW which includes CHW supervisor and CHW coordinator and nurse are part of the supervisory structure, and this is highlighted by Rachlis *et al.,* (2014:3) showing that there is a community health extension worker (CHEW) whose role is to supervise a group of CHWs. This allows the nurse to focus more on the clinical role and receive report from the CHW coordinator who is based at the clinic, and whose duties include collating information received from the CHW supervisors and submits it to the nurse and clinic administrator (PIH, 2014:21). Performance management should be carried out based on standardised set of skills that respond with community needs (WHO 2010: 45). The programs should have regular and continuous supervision and monitoring systems in place and supervision should be taught to be undertaken in a participatory manner that ensure two-way flow of information (WHO 2010: 45). LDHS (2014) shows that in Lesotho, there is lack of comprehensive knowledge about HIV/AIDS among men and women from the general public, even though women have a little more knowledge than men (39 and 31 % respectively). There is widespread of VHWs presence in all villages in Lesotho, if they have comprehensive knowledge about HIV/AIDS, they will educate the communities where they live.

Knowledge that VHWs have should include HIV/AIDS as diseases, the ARVs as treatment for HIV, side effects, adherence issues, disclosure, stigma and discrimination (Mwai *et al.,* 2013:7, 8). When communities have comprehensive knowledge about HIV, they will cooperate with the efforts made in responding to HIV/AIDS pandemic such as test and treat strategy, it will not be difficult for them to test for HIV and be on treatment if they are found to have HIV, if not they will look after themselves better (Rachlis *et al.,* 2014:9).

Goal and Objectives: This study is commissioned by the Lesotho Ministry of Health and its main goal is to improve HIV /AIDS treatment outcomes through community health care services in Lesotho.

Specific Objectives for this study are:

- To assess knowledge of HIV amongst the VHWs and the communities they serve
- To assess utilisation of VHWs services by the communities they serve

Methods and procedure: A representative sample of 19 clinics covering all districts was selected using multistage sampling. HIV knowledge assessment tool was administered to all VHWs of the selected clinics. Data collection took place between September and October 2016.

An estimate of the number of households to be covered in the study was established using statistical methods. Households were used as sampling units for soliciting information about utilisation of VHWs' services. The estimated number of households was distributed proportionally to the ten districts of the country. The allocation for the district was further distributed among the selected sample clinics.

To measure knowledge summary variables were computed based on collected information. To assess knowledge, the respondent would be asked to mention all known modes of say HIV transmission or prevention. The research assistant would make a tick against those mentioned from the list. When the respondent has mentioned all known responses, unknown responses would be left without a tick. For data capturing purposes, the ticks were given a code of 1 while those without a tick were given a code of 0. By adding responses corresponding to known modes of say HIV transmission a summary measure was computed. The values of the variable corresponding say to modes of HIV transmission would range from 0 indicating no known mode of HIV transmission to say 6 where all the listed 6 modes of HIV transmission were known. Modes of either HIV transmission or prevention as well as signs that someone might be suffering from HIV were taken from the listing in the training manual of VHWs. To assess adequacy or otherwise of knowledge, To assess adequacy or otherwise of knowledge, Nachega, Lehman, Hlatshwayo et al (2005)'s definition of adequate knowledge was used. According to this definition, at least 75 percent of listed modes should be known for a VHW to be considered as possessing adequate knowledge. Ethical approval was granted by the Ethical Committee of the Ministry of Health – registration number 188-2016. Good will permission to conduct the study was obtained from the 19 selected clinics. All the study participants gave their written informed consent. Key information pertaining to treatment of HIV comparing

performance of clinics was prepared and taken to the clinics to validate with all VHWs participated in the study.

RESULTS AND DISCUSSION

Characteristics of Household Members: All in all, 2040 households were visited during the survey with a population of 8295 individuals.

Table 1.1. Characteristics of the Household Population

Characteristic	Category	Percent	N
Relationship to Head	Head	23.7	1970
	Spouse	12.4	1031
	Child	37.0	3068
	Son/Daughter in law	1.9	156
	Grandchild/great grandchild	16.8	1391
	Other relative	6.4	535
	Other person not related	1.6	132
	No response	0.1	12
Sex	Male	47.8	3963
	Female	52.2	4326
	No response	0.1	6
Age	00-10	18.8	1559
	10-19	22.9	1902
	20-29	16.1	1338
	30-59	24.7	2046
	60+	13.2	1095
	Age not Stated	4.3	355
Residential Status	Present	81.8	6786
	Visitor	0.6	49
	Member elsewhere in Lesotho	9.2	761
	member outside Lesotho	8.2	681
	Do not know	0.1	6
	No response	0.1	12
Marital Status	Never married	37.8	2162
	Currently married	46.7	2669
	Previously Married	15.5	884
Level of Education	Pre-school	3.3	273
	Primary	54.1	4489
	Secondary and above	25.0	2077
	Other	0.2	14
	Do not know	0.5	44
	Aged less than 5/no response	16.9	1398

Table 1.2. Profile of Village Health Workers

Characteristic	Category	Percent	N
Sex	Male	6.6	48
	Female	93.2	676
	No response	0.1	1
Age	<40	18.0	130
	40-49	25.4	184
	50-59	28.1	203
	60-69	22.8	165
	70+	5.2	38
	No response	0.4	3
Marital Status	Never married	2.2	16
	Currently married	64.4	467
	Previously married	33.2	241
	No response	0.1	1
Education	No Education	1.2	9
	Primary	77.4	561
	Secondary or higher	21.2	154
	No response	0.1	1
Who Trained You?	Ministry of Health	94.6	684
	PIH, World vision, Global Health	2.9	21
	No training	2.5	18
Year of Training	Before 1990	9.3	67
	1990-1999	14.7	106
	2000-2009	28.6	207
	2010 -2016	38.6	279
	Do not remember	6.4	46
	No training	2.5	18
Year of Refresher Course	Before 2000	1.8	12
	2000-2009	5.8	42
	2010-2016	58.8	420
	Do not remember	20.5	147
	No refresher course	11.6	84
	No training	2.5	18

Regarding the profile of household members more than a third (37 percent) of household members are children while grandchildren constitute 17 percent. More than half (52 percent) were females and 48 percent were males. Forty-two percent of the household members were aged less than 20 years while 13 percent was aged 60 years and above.

Table 1.3. Summary Knowledge Among Village Health Workers

Knowledge about:	Observed Mean	Expected mean	N
Modes of HIV transmission	3.23	4.50	6
Modes that cannot transmit HIV	2.31	3.75	5
Modes of HIV prevention	3.69	8.25	11
Signs of AIDS	3.29	6.75	9
benefits of HIV treatment	1.99	3.00	4
Role of VHW to community's health	2.53	3.00	4
Roles of VHW to people living with HIV	2.71	3.00	4

Note: N denotes the number of items used in the computation of the summary indicator

Table 1.4. Utilisation of VHWs' services (%)

HIV Knowledge Status	help/advice provided by VHW on	
	ARVs	Testing for HIV
Adequate	63	59
Inadequate	47	29

About a fifth (17 percent) of the members were absent from the household while 82 percent were present. More than half (54 percent) of household members had completed primary level of education compared to a quarter (25 percent) who had completed secondary education or better. Less than forty percent (38 percent) of household members were never married compared to 47 and 16 percent of currently married and previously married respectively. Table 1.1 shows the profile of household members.

Characteristics of Village Health Workers: More than 700 (723) VHWs responded to the VHW questionnaire. The age distribution of VHWs is bell shaped. It increases from a low of 18 percent for those ages less than 40 years and reaches a peak of 28 percent for those aged between 50 and 59. Almost all VHWs are females (93 percent) while the majority (64 percent) are currently married and a third (33 percent) is previously married. More than two thirds (77 percent) of the VHWs had completed primary education and a fifth have completed secondary education or higher. Almost all VHWs (94.6 percent) reported that they were trained by the Ministry of Health and were mostly trained after 1999 while refresher courses were concentrated between 2010 and 2016. Table 1-2 depicts profile of village health workers.

HIV Knowledge and Utilisation of VHWs Services: At household level the discussion is about HIV testing and utilisation of services of VHWs. The household head reported on all household members while present members aged 15 years and above reported on themselves. Reports on whether the last HIV testing was between May and August 2016 or earlier are also discussed. For VHWs the focus was on their knowledge which included modes of HIV transmission and prevention, signs that someone has AIDS, benefits of HIV

treatment as well as the roles of VHWs to the community's health. Summary knowledge measures were computed for all the issues VHWs' knowledge was assessed on.

HIV/AIDS Knowledge of VHWs: The sub-section discussed VHWs' knowledge in the following: modes of HIV transmission, modes that cannot transmit HIV/AIDS, modes of HIV prevention, signs of that someone has AIDS, benefits of HIV treatment, role of VHW to the health of the community and role of VHW to people living with HIV**.** Summary knowledge measures were used in the presentations. Nachega, Lehman, Hlatshwayo *et al.,* (2005)'s definition of adequate knowledge was used in assessing if VHWs had adequate knowledge or not. Defining adequate knowledge to mean knowing at least 75 percent of the items used in the summary measure, overall the knowledge is low as reflected in Table 1.3. Comparing the expected mean and the observed mean based on collected data the observed mean falls short of the expected mean for all the summary knowledge indicators. The short fall is between 28 and 39 percent for modes of transmission, mode that cannot transmit HIV and benefits of taking ARVs. For modes of HIV prevention and signs that someone has AIDS the shortfall is between 52 and 56 percent. The shortfall for knowledge about VHWs roles is between 10 and 16 percent. The performance was highest with the roles followed by modes of transmission and benefits of HIV treatment. Knowledge was least with signs that someone has AIDS and modes of prevention. Table 1.3 shows summary knowledge among VHW.

VHWs' help with HIV testing: Asked who advised them to take the HIV test, household members aged 15 years and above reported that a third (30.8 percent) was advised by the VHW while more than half (56.1 percent) took the HIV test on their own initiative. Those advised by either the relative or community member constituted 10.9 and 2.4 percent respectively Reporting on household members the household head reported that 45 percent of household members who were HIV positive were helped by the VHW to be on ARVs. HIV Testing: According to the household head 61.5 percent of household members had ever tested while the figure from individual members aged 15 years and above was 88 percent. Both figures fell short of the recommended 90 percent. However, reporting on household members, the household heads reported that 95 percent of those who had taken the test were assisted by the VHWs to be on ARVs thus achieving the second recommended 90 percent.

Overal Utilisation of VHW's services by clinics: While generally VHWs had inadequate HIV knowledge, at clinic level two clinic had adequate HIV knowledge. In order to establish whether adequate HIV knowledge of VHWs translate into utilisation of VHWs' services, a comparison was made between clinics of VHWs with adequate knowledge against those with inadequate knowledge. As indicated in Table 1.4, adequate knowledge translated into high utilisation of VHWs' services by members of the community members served by VHWs with adequate knowledge. Members of the public served by VHWs with adequate knowledge are two times more likely to report that they were advised by the VHW to get tested for HIV. On the other hand 63 percent of community members served by VHWs with adequate knowledge reported that they were helped by the VHW to be on HIV treatment as opposed to 47 percent among members of the public served by VHWs inadequate knowledge.

Limitations of the study: Although this study provided noteworthy findings, the results should be interpreted with caution, especially about generalizability of the findings.
Some clinics have supervisors and coordinators while some have none. Availability / unavailability of the supervisors and coordinators in clinics is likely to have an impact on the role of the VHWs concerning HIV/AIDS in clinics. The study was conducted with VHWs in Lesotho. We therefore cannot be sure that the findings are generalizable to other countries.

Conclusion and recommendation

With regard to HIV knowledge, VHWs' knowledge in Lesotho is generally inadequate. The overall mean of HIV knowledge among VHWs was 14.51 against the expected mean of 26.25. Concerning the overall knowledge of the roles of the VHW in the prevention and treatment of HIV, the overall mean knowledge of the roles was 5.79 against the expected mean of 9.49. Household heads also reported a figure of 45 percent as the percentage of household members that were helped by the VHW to get ARVs. Among household members aged 15 years and above only a third was advised by the VHW to go for HIV testing. It was also established that adequate knowledge among VHW translated into better health treatment outputs in their villages. The role of the VHW in the treatment of HIV at household level was equally low. Household heads reported a figure of 45 percent as the percentage of household members that were helped by the VHW to get ARVs. Among household members aged 15 years and above only a third was advised by the VHW to go for HIV testing. Communities served by VHWs with adequate knowledge did not only demonstrate better knowledge compared to their counterparts served by VHWs with inadequate knowledge, their utilisation of VHWs' services were high. This finding confirmed what was suggested by the literature (Hirsch-Moverman *et al.,* 2017: s38; Braun et al.2013: e65772; Howard *et al.,* 2016:31543). It is therefore recommended that inadequate HIV knowledge among VHWs has to be addressed through offering of refresher courses on HIV/ AIDS at least once a year to sustain the VHWs knowledge and skill. A revision of HIV section of the training manual for VHWs of the Ministry of Health and regular training workshops and Benchmarking of good practices of the VHWs of clinics with adequate knowledge is highly recommended.

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Abbreviations:

AIDS Acquired Immune Disease Syndrome

ARV	Antiretroviral
CHCS	Community Health Care System
CHW	Community Health Workers
DHMT	District Health Management Team
HIV	Human Immune-deficiency Virus
LDHS	Lesotho Demographic and Health Survey
LFDS	Lesotho Flying Doctors Services
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
ODK	Open Development Kit
PHC	Primary Health Care
PIH	Partners in Health
PMTCT	Prevention of mother-to-child transmission
SPSS	Statistical Package for Social Scientists
VHW	Village Health Worker

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