

DELIVERY OF TRAINING IN HIV/AIDS SERVICES AMONG COMMUNITY PHARMACISTS IN OYO STATE, NIGERIA: AN INTERVENTIONAL STUDY

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ABSTRACT

A recent baseline study showed that community pharmacists' involvement in HIV/AIDS services in Oyo State, Nigeria was low while respondents showed willingness to participate in training to improve services. This study assessed the training programme delivered to same respondents with the aim of improving HIV/AIDS services at the pharmacies. A one-day training was developed and delivered to 70 selected community pharmacists in Oyo State, Nigeria. Semi-structured questionnaire on a 5-point Likert scale was administered to the respondents to assess their opinion on the training, evaluate the resource persons and perceive sufficiency of the training to provide services. Data were analysed using IBM SPSS version 21.0 with descriptive statistics while open-ended responses were thematically analysed. Response rate was 71.4%. The mean score of participants' opinion on the training program based on 10 indicators identified was 45.98 ± 5.177 (range of 10–50; midpoint 30). Lowest (21.21 ± 3.168) and highest (23.46 ± 2.510) scores were obtained (range 5–25; midpoint 15) based on the lecture presentation using 5-item measures for the resource persons. All the respondents agreed that the training will be sufficient to carry out the HIV/AIDS services in their premises. Community pharmacists were satisfied with the training delivered, the resource persons were competent to deliver the training and that the training will be sufficient to deliver HIV/AIDS services in their pharmacies. Further study will evaluate the effect of the training on the HIV/AIDS services delivered by community pharmacists using the same participants.

Keywords: Antiretrovirals, Community pharmacists, HIV/AIDS testing services, Intervention, Medication therapy management, Training

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INTRODUCTION

Globally, Nigeria is the second largest HIV epidemic country. In terms of new infections, the country also ranks among those with the highest infection rates in sub-Saharan Africa (National Agency for the Control of Aids [NACA] 2017). In 2019, Nigeria accounted for nearly 70% of all fresh infections in West and Central Africa (UNAIDS 2020). Even though the prevalence of HIV is lower (at 1.3%) among adults than what is seen in some countries in sub-Saharan Africa, the sheer size of the Nigerian population implies that as many as 1.8 million individuals had the virus and annual new infection of 103,404 in 2019 (UNAIDS 2020). In Nigeria, just 30% of all people living with HIV/AIDS (PLWH) were placed on drug therapy in 2016 which was lower among children, with only 21% on antiretroviral therapy (ART) (UNAIDS 2017). In 2019, individuals who received a positive diagnosis and who had commenced ART regimen had risen to 89%, but there was no data on suppression of the virus. The country aims to attain the target set by UNAIDS that, by 2021, as high as 90% of PLWH will know their status (NACA 2017). However, most of the factors standing against its realisation still subsist. The COVID-19 has affected the provision of HIV services leading to a drop in viral load testing, ART refill rate, and clinical activities such as therapeutic drug monitoring and adherence counselling. The 6-month lockdown in 2020 had interrupted HIV treatment where HIV infrastructure including laboratories, personnel and technical supports was deployed to support COVID-19 (NACA 2020). About 25%–30% of COVID-19 tests were conducted in six HIV mega laboratories while more than 15,000 HIV community-based volunteers drawn from HIV stakeholders actively participated in contact tracing (NACA 2020). This may lead to about 900,000 deaths as opposed to 430,000 deaths in sub-Saharan Africa (UNAIDS 2020).

Community pharmacists have started to offer HIV testing services and they are uniquely situated to facilitate the critical link to HIV care (Dugdale *et al.* 2014). Also in the Centers for Disease Control and Prevention (CDC) finding, it was shown that community pharmacies represent a vast, largely untapped potential for the delivery of HIV testing in areas that are more accessible for some people and less stigmatising than traditional laboratory testing (CDC 2016). Based on these findings, the CDC had developed training in HIV testing in community pharmacies that reflects scientific advances and evidence-informed updates as expressed in CDC's guidance on 'Implementing HIV testing in non-clinical settings: A guide for HIV testing providers' (CDC 2016, 2020). The community-based ART approach is overwhelmingly supported because it seems to be the only viable strategy for delivering HIV treatment services closer to the people and improving ART uptake, retention in care and decongesting overburdened public health facilities (WHO 2016). The National Institute of Health (NIH) proposed pharmacist-delivered medication therapy management (MTM) programme for PLWH to improve HIV medication adherence in communities (Rural Health Information Hub 2018). The International Pharmaceutical Federation (FIP) further stipulated the roles of pharmacists in promoting the provision of point of care testing services in pharmacies and medication management purposes (FIP 2004) which is in line with WHO global strategy in promoting the use of community-based ART to end HIV/AIDS by 2030 (UNAIDS 2014, 2017; WHO 2016).

The components of HIV/AIDS testing services (HTS) offered by community pharmacists include rapid HIV testing, stocking of HIV test kits, HIV/AIDS pre-test and post-test counselling, provision of confidential test result, referral for confirmatory HIV test and referral of patient with positive result to physician (Calderon *et al.* 2013; Weidle *et al.* 2014; Darin *et al.* 2015). Also, community pharmacists offer antiretroviral (ARV) MTM services to include initiation of ART, counselling on medication use, refill reminder services, referral to other medical services as needed, regular monitoring of CD4+ cell count, HIV

RNA viral load, adverse drug events and patients' adherence to medication (Rosenquist *et al.* 2010; Kauffman *et al.* 2012; SIDHAS/FHI 360 2018). Others include provision of social responsibility to HIV patients, provision of post exposure prophylaxis (PEP) tests for patient and pharmaceutical care services (Oseni and Erhun 2021). For pharmacists to take up this active role in HIV/AIDS services, pharmacists need additional training by completing an approved course with an accredited education and training provider. This is to ensure that all pharmacists who provide these services are knowledgeable, confident and experienced (Carapinha 2008; Ryder *et al.* 2013). This is critical for expanding pharmacists' role in HIV prevention services (Myers *et al.* 2019).

Previous studies had shown the willingness and readiness of community pharmacists participation in HIV testing services and that such services are feasible and acceptable (Deas and McCree 2010; Amesty *et al.* 2012; Ryder *et al.* 2013; Weidle *et al.* 2014; Darin *et al.* 2015; Oseni and Erhun 2021). Studies have also shown that many pharmacists consider themselves unskilled to provide HIV/AIDS services. In a study conducted in four Midwestern cities in the USA, less than half of the pharmacist respondents considered themselves competent to provide care for PLWH (Kibicho, Pinkerton and Owczarzak 2014). However, a pilot study conducted among community pharmacists in California, USA, pharmacists who completed HIV/AIDS-related training were able to provide varied MTM services with individual counselling (Rosenquist *et al.* 2010). Training intervention among community pharmacists in the USA also showed that the provision of services is feasible and respondents were willing to continue to offer services and link with relevant health facilities after the completion of the pilot study (Weidle *et al.* 2014). The study by Ajagu, Anetoh and Nduka (2017) among community pharmacists in south-east, Nigeria showed respondents' low perceived skills in the care for HIV/AIDS patients. However, previous studies on perception of community pharmacists to participate in HIV/AIDS services in Nigeria showed their willingness and readiness to take up this extended role after receiving appropriate training (Adeola 2014; Ajagu, Anetoh and Nduka 2017; SIDHAS/FHI 360 2018; Dapar *et al.* 2019).

In a baseline study conducted by the researchers in south-west Nigeria, only 18.5% of the community pharmacists offered rapid HIV testing services in their pharmacies while about 30% of the respondents offered a refill of ARV services and only 32% provided adherence counselling for HIV/AIDS patients. Respondents in the study showed their willingness to provide services and were willing to participate in HIV/AIDS services training course (Oseni and Erhun 2021).

In Nigeria, records show that many PLWH remain unaware of their status. In terms of achieving set targets in the number of HIV testing and counselling sites, Nigeria still lags. This may be blamed, at least in part, on inadequate access to HIV testing sites. Availability and accessibility of healthcare facilities continue to fall short of demands. The population continues to grapple with inadequate sites for HIV service delivery (including sites for testing, treatment and prevention of mother to child transmission). In 2014, an estimated 8,000 sites were providing HIV testing services (NACA 2015). In 2015, HIV treatment services were provided by 1,078 facilities, in line with the national strategic framework (NACA 2017). Meanwhile, every primary healthcare facility should be able to provide these services. However, for universal coverage, as many as 23,600 sites will be required. In like manner, the healthcare workforce is poorly trained and equipped to provide HIV testing and counselling services which could have improved access for the communities they serve. The training of community pharmacists and designation of the pharmacies as sites may alleviate these challenges.

Oyo State is one of the 36 states of the Federal Republic of Nigeria and is located in the south-west geopolitical zone of Nigeria (Oyo State Government 2015). It is ranked 14th by size and 5th in population in Nigeria (National Bureau of Statistics 2018). The state is divided into five zones. Of the 36 states in Nigeria, six states including Oyo State accounted for 41% of people living with HIV (NACA 2017). The findings following a research establish that the spatial distribution of the HIV/AIDS is highest in Saki zone with 22% and lowest in Oyo zone with 18.5% of respondents. Others are Ogbomoso 21.5%, Ibarapa 19.0% and Ibadan 19.0% of respondents with the disease (Irene and Aikhole 2016).

Purpose of the Study

Various studies had established that training intervention among community pharmacists will improve HIV/AIDS service delivery in their pharmacies and that community pharmacists sought for training to be able to deliver HIV/AIDS services in their pharmacies. Recent baseline study conducted by the researchers among community pharmacists in southwestern states in Nigeria including Oyo State corroborated this (Oseni and Erhun 2021).

The purpose of this study is to assess the HIV/AIDS training programme delivered for community pharmacists in Oyo State, Nigeria. The objectives are to train community pharmacists in HTS and ARV MTM, assess the opinion of community pharmacists on the training programme and evaluate the resource persons in the delivery of the training programme. This is with the aim of incorporating the training programme into community pharmacists' training to improve services.

METHODS

This is an interventional study, conducted between January and December 2019 among community pharmacists working in Pharmacists Council of Nigeria (PCN) registered community pharmacies in Oyo State, Nigeria (PCN 2018). The study followed the outcome of the baseline assessment of community pharmacists' involvement and clients' opinion on HIV/AIDS services in community pharmacies in Nigeria (Oseni and Erhun 2021). It involved the delivery of training programme for community pharmacists in HTS and ARV MTM among selected community pharmacists in Oyo State, Nigeria. It assessed the training programme by assessing the participants' opinion on the training, evaluated the resource persons and the training sufficiency in delivering the services among community pharmacists.

Sample

The sample size for this study was determined from the outcome of the sample size for Oyo State at the baseline survey earlier conducted by the researchers (Oseni and Erhun 2021). The PCN register revealed that the total number of registered community pharmacies in Oyo State were 162 premises as at 31 December 2018 (PCN 2018). Taro Yamane's formula was used to select the number of community pharmacies included in the baseline survey based on multistage sampling method on the town and local government area (LGA) of their locations. Community pharmacies were randomly selected from each town/LGA based on a defined population. A total of 100 community pharmacists from the selected community pharmacies participated in the baseline survey while 70 of them who indicated their willingness to be trained in HTS and ARV MTM at the end of the baseline assessment were all invited to the training programme. This constituted the sample size.

Description of the Training Programme

The responses of the community pharmacists in the baseline study were used to develop the intervention training program. This was based on the respondents' willingness to provide service, area of HTS and ARV MTM training needs, and willingness of the clients to participate in HIV screening at community pharmacies (Oseni and Erhun 2021). A one-day training was conducted on 20th August 2019, at PCN South-West Zonal Office (SWZO) Hall, Ibadan, Oyo State, Nigeria. The major highlight of the training included the introduction of the training by the programme's facilitator/lead researcher who explained the background of the training and presented the outcome of the baseline assessment conducted in the State (Oseni and Erhun 2021). Resource persons and master trainers were the experts from the University College Hospital (UCH) and APIN Public Health Initiatives, Obafemi Awolowo University, Faculty of Pharmacy, community pharmacy and Accucheck/Roche.

The practical section was based on the HTS procedure using the HIV rapid test kit (Determine™). It involved sterilisation of the clients' thumb using alcohol swab (or cotton wool moisten in methylated spirit) to disinfect the area. The sterilised area of the thumb was then pierced with lancet and capillary tube was used to draw the required volume of blood (0.1 mL). The sample was then introduced directly into the kit sample area. A drop of buffer was added and the result read after 10 min–15 min. Participants' skill on the HTS procedures was assessed by individual conducting the test using the test kit.

The MTM training focused on how community pharmacists can continuously counsel stable patients, provide pharmaceutical care and assist patients in obtaining ART refills in timely manner to increase medication adherence. Participants were encouraged to conduct screening on blood pressure and blood sugar for all clients/patients who will volunteer for the HTS. This will serve as further motivation for participants in the study.

At the end of the training, all participants were given the documentation forms for HTS including HTS client intake form, HTS monthly summary form, HTS register, HTS referral form, HTS outreach service register, etc. Also, handbills and banners were to be placed at the pharmacies for clients' awareness of the services, 25 strips of HIV test kit, capillary tubes, lancet and buffer for the test, male condoms as incentives for clients, and family planning pills for female clients.

Participants also evaluated the training programme at the end of training with a paper evaluation form designed for the purpose. They were given about 10 min to fill the evaluation form and retrieved immediately. A total of 49 participants completed and submitted the form and all were issued certificates of participation.

Evaluation Tool

The design of the evaluation form followed an earlier form designed by the lead researcher in a previous similar study (Oseni and Afolabi 2020). It was done through the use of standard evaluation forms of FIP, Nigerian Association of Pharmacists and Pharmaceutical Sciences in America (NAPPSA) and Mandatory Continuous Professional Development (MCPD) for pharmacists in Nigeria. It consists of 10 questions which sought to know participants' opinions about the training programme, the evaluation of the resource persons based on the six topics delivered rated on 5-item indicators, respondents' perceived sufficiency of the training programme in enabling them to provide HIV/AIDS services in their pharmacies and the value added by the training. Respondents were requested to rate their opinions on the training programme and sufficiency of the training on the scale of 1–5 and were scored as strongly agree = 5, agree = 4, cannot say = 3, disagree = 2, strongly

disagree = 1. Presenters were also evaluated on a scale of 1–5, scored as excellent = 5, good = 4, average = 3, fair = 2, poor = 1 while they freely commented on the value added by the training programme.

Analysis of Data

Rated scores were treated as interval data suited for quantitative analysis. On a 5-point scale, '5' represented the highest mean score while '1' represented the lowest mean score. On different items used in the questionnaires, lowest and highest scores were obtained while neutral points were assumed as the midpoint between the lowest and highest scores. The midpoint was calculated by adding the lowest and highest points and finding the average. Scores above midpoints were taken as positive while those below were taken as negative. Of the 10-item indicator, 10 points is the lowest and 50 highest while 30 was the midpoint. Also, on a 5-item indicator, 5 was the lowest point and 25 as the highest and midpoint 15. Descriptive statistics used to analyse data included percentage, frequency, mean and standard deviation. Emerging response themes on value-added through the programme and suggestions for improvement were noted and counted on the number of times a theme was reported. The results were evaluated with both quantitative and qualitative methods. Quantitative data were coded, imputed and analysed using the Statistical Package for the Social Sciences (SPSS) version 21.0.

RESULTS

Out of 70 community pharmacists invited for the training, 50 were in attendance, given a response rate of 71.4%. Also, out of 50 participants in attendance at the training, 49 (98%) completed the evaluation form. The training programme was covered by the Nigerian Tribune, a Nigerian newspaper (Oguntola 2019a, 2019b) and was attended by the Chairmen of Pharmaceutical Society of Nigeria (PSN), Oyo State branch and Association of Community Pharmacists of Nigeria (ACPN), Oyo State branch and the Director of Pharmaceutical Services, Ministry of Health, Oyo State.

Table 1 shows participants' opinions on the training programme based on 10 indicators identified in the study. Using the 10-item measures, the total mean score of 45.98 ± 5.177 (range of 10–50; midpoint 30) was obtained from the respondents. All the respondents agreed and strongly agreed that the training was sufficient to carry out the HIV/AIDS services. Each of the resource persons was evaluated based on the presentation of lectures using the identified 5-item measures based on delivery ability, expertise, usefulness and relevance of topics and completeness of the content (Table 2). Lowest score of 21.21 ± 3.168 and highest score of 23.46 ± 2.510 were obtained (range 5–25; midpoint 15). Table 3 shows the value added by the training programme to the respondents. These include educational content and the process cycle from testing, identification, counselling and management of the positive patients (61.2%), pharmacists having opportunity to be involved in public health delivery and referral arrangement/professional empowerment for service delivery (12.2%) and making community pharmacists more relevant on HIV/AIDS services delivery (12.2%).

Respondents made suggestions to improve specific aspects of the programme in Table 4. Their recommendations include the need to spread the programme for over a few days to allow for more robust engagement and content sharing (32.7%) and need for constant training and retraining to improve services provided (28.6%) among others.

Table 1: Participants' opinion on the training programme.

Item	Strongly agree (scale 5)	Agree (scale 4)	Cannot say (scale 3)	Disagree (scale 2)	Strongly disagree (scale 1)	Mean (SD)
f (%)						
The programme met the advertised educational objectives	33 (67.3)	15 (30.6)	1 (2.0)	0 (0.0)	0 (0.0)	4.56 (0.522)
The contents were interesting	27 (55.1)	19 (38.8)	3 (6.1)	0 (0.0)	0 (0.0)	4.49 (0.617)
The content added to my knowledge on the topics	38 (77.6)	11 (22.4)	0 (0.0)	0 (0.0)	0 (0.0)	4.78 (0.422)
The handout materials were useful	35 (71.4)	13 (26.5)	1 (2.0)	0 (0.0)	0 (0.0)	4.69 (0.508)
The information provided will be useful to my practice	36 (73.5)	13 (26.5)	0 (0.0)	0 (0.0)	0 (0.0)	4.73 (0.446)
The delivery methods of the programme met my needs	24 (49.0)	25 (51.0)	0 (0.0)	0 (0.0)	0 (0.0)	4.49 (0.505)
Active participation was encouraged	28 (57.1)	19 (38.8)	2 (4.1)	0 (0.0)	0 (0.0)	4.53 (0.580)
The presentations were free of commercial bias	32 (65.3)	16 (32.7)	1 (2.0)	0 (0.0)	0 (0.0)	4.63 (0.528)
The training gave me new ideas and present new viewpoints	33 (67.3)	16 (32.7)	0 (0.0)	0 (0.0)	0 (0.0)	4.67 (0.474)
I was satisfied, overall, with the programme	22 (44.9)	25 (51.0)	2 (4.1)	0 (0.0)	0 (0.0)	4.41 (0.574)
Total mean score						45.98 (5.177)

Note: SD = standard deviation.

Table 2: Evaluation of the resource persons during the training programme.

Topic by resource persons	Items for evaluation	Mean score	SD
Welcome speech/Introduction to the training	Delivery/presentation ability	4.27	0.670
	Expertise	4.33	0.625
	Usefulness of topic	4.45	0.614
	Relevance of topic	4.59	0.610
	Completeness of the content	4.37	0.528
Total mean score		22.01	3.047
Average score		4.40	0.609
Pharmacy and collaborative practices and referral	Delivery/presentation ability	4.23	0.515
	Expertise	4.23	0.555
	Usefulness of topic	4.56	0.580
	Relevance of topic	4.58	0.577
	Completeness of the content	4.29	0.617
Total mean score		21.89	2.844
Average score		4.38	0.569
HIV/AIDS pretest and post-test counselling	Delivery/presentation ability	4.63	0.528
	Expertise	4.69	0.508
	Usefulness of topic	4.82	0.441
	Relevance of topic	4.71	0.500
	Completeness of the content	4.61	0.533
Total mean score		23.46	2.51
Average score		4.69	0.502
ToT on HIV/AIDS testing services and linkage of positives to ART	Delivery/presentation ability	4.57	0.500
	Expertise	4.67	0.474
	Usefulness of topic	4.57	0.500
	Relevance of topic	4.59	0.537
	Completeness of the content	4.49	0.545
Total mean score		22.89	2.556
Average score		4.58	0.511
Blood pressure and blood glucose screening and monitoring procedures	Delivery/presentation ability	3.96	0.644
	Expertise	4.29	0.645
	Usefulness of topic	4.37	0.602
	Relevance of topic	4.47	0.581
	Completeness of the content	4.12	0.696

(continued on next page)

Table 2: (continued)

Topic by resource persons	Items for evaluation	Mean score	SD
Total mean score		21.21	3.168
Average score		4.24	0.634
ART medication therapy management	Delivery/presentation ability	4.45	0.542
	Expertise	4.49	0.545
	Usefulness of topic	4.55	0.580
	Relevance of topic	4.55	0.542
	Completeness of the content	4.39	0.533
Total mean score		22.43	2.742
Average score		4.49	0.548

Notes: Scale of 1–5 on excellent = 5; very good = 4; good = 3; fair = 2; poor = 1.

Table 3: Value added by the training programme.

Value added by the programme	Frequency <i>N</i> = 49	%
Educational content of the training programme	30	61.2
Making community pharmacists more relevant on HIV/AIDS services delivery	6	12.2
Pharmacist involvement in public health delivery and referral arrangement/professional empowerment for service delivery	6	12.2
Every aspect of the programme is valuable	5	10.2
Avenue for community pharmacists in achieving UN 90:90:90 targets	1	2.0
Provision of necessary HTS forms for documentation	1	2.0

Table 4: Suggestions to improve specific aspects of the training programme.

Suggestions to improve specific aspects of the programme	Frequency <i>N</i> = 49	%
To spread the training over more days to allow for more robust engagement and content sharing	16	32.7
Constant training and retraining will improve our services	14	28.6
A lot more time should be dedicated to training especially documentation by pharmacists (step by step) is necessary	3	6.1
Make the programme residential (should be done at local or regional level)	3	6.1
Make good follow-up	3	6.1
Collaborate with more sponsors and foreign organisations	2	4.1
More publicity for another time (more awareness for patients to patronise pharmacists)	2	4.1
The practical aspect of the programme	2	4.1

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Table 4: (continued)

Suggestions to improve specific aspects of the programme	Frequency N = 49	%
Young people should be involved in the programme	2	4.1
Provision of public address system (PAS) is required for the programme	1	2.0
The clinical aspect of diabetics should be handled by endocrinologist	1	2.0

DISCUSSION

This study assessed the HIV/AIDS training developed for community pharmacists in Oyo State, Nigeria. The study revealed that community pharmacists indicated that the content of the training intervention was well developed and they were satisfied with the training delivery by resource persons. Also, that the training was sufficient for community pharmacists to provide HIV/AIDS services.

Training needs assessments are pivotal for any capacity building programme (Kumar and Kumar 2013). The needs assessment survey as indicated in the baseline survey of this research was an effective starting point used to define the learning objectives and develop the training needs for the community pharmacists [Management Sciences for Health (MSH) 2012; Oseni and Erhun 2021]. In 2008, the AIDS Education and Training Center (AETC) met and developed a four-level workshop for community pharmacists based on the need assessment (Balano *et al.* 2008). The training guide provided the framework for developing training programmes for pharmacists and other healthcare providers. The contents of the training developed in this study are similar to topics and contents of the AETC. Also, the training intervention strategies employed were similar to that of the AETC and other previous studies in Canada and Cumbria, North West England [Balano *et al.* 2008; Weidle *et al.* 2014; Pharmaceutical Services Negotiating Committee (PSNC) 2016]. These include the involvement of pharmaceutical associations in the planning of the training programme, contacting individual pharmacists through phone calls to ascertain their interest and incentives in the form of certification and free samples of condoms, family planning pills. The implementation of the training programme geared to improve performance, took into account the experience and educational levels and skills of the participants, the time and resources available for training, hence a day training programme was conducted.

The WHO emphasised that basic training is essential for all HIV testing and counselling staff members, including reception and administrative staff, and lay volunteers working in conjunction with formal health service sites and community-based health services (WHO 2020). Continuous training and learning, and the development development of community pharmacists were found to be an avenue to develop community pharmacists' competency in the provision of their extended roles and in this case HIV/AIDS services (Rudolph *et al.* 2010; Ryder *et al.* 2013; Westein *et al.* 2019; Myers *et al.* 2019).

Participants' showed a high level of satisfaction with the overall course content of the training programme. This is similar to participants' assessment of the training programme during a national ARV treatment training programme in Nigeria regarding the content of training, duration of training and lectures, effectiveness of the training aids used and relevance of materials supplied as rated by participants (Idigbe *et al.* 2006). Other similar studies include capacity building training of healthcare providers in HIV/AIDS care and treatment in Swaziland (Kamiru *et al.* 2009) and respondents at a complimentary online

and on-site interactive training programme developed for local healthcare workers (HCWs) at the primary care level in underserved communities to integrate HIV care into primary medical care in Central America (Flys *et al.* 2012) concurred that the training programmes were effective and capable of improving their HIV-related knowledge and skills.

The resource person's evaluation guide was similar to the AIDS Education and Training Centre (AETC), HIV/AIDS training evaluation and learning self-assessment form (AETC 2015) which rated trainers on a 5-point Likert scale in terms of trainer's expertise, clarity, cultural appropriateness, time management and responsiveness trainees' educational needs. It also evaluated the strengths and weaknesses of this programme, suggestions on how to improve the programme and additional HIV/AIDS-related education required by the training participants.

The perceived sufficiency of the training programme by the participants is in line with previous study conducted by the researcher (Oseni and Afolabi 2020) and other studies conducted for community pharmacists (Bajorek *et al.* 2015).

The training also added value to the participants as in other similar previous training. Training intervention was seen to increase participants' clinical knowledge in HIV/AIDS and ART, the ability to integrate the HIV services to practice, better understanding of health system, ability to scale up voluntary counselling and testing (VCT) services (Hiner *et al.* 2009; Kamiru *et al.* 2009; Flys *et al.* 2012).

A training-of-trainers (TOT) model in the Caribbean region for rapid scale-up of VCT services was concluded to be an effective and sustainable method because the training span up for a period of time, and telephone survey followed-up on programme-trained providers (Hiner *et al.* 2009). Similarly, an educational strategy to integrate HIV care into primary medical care in Central America, composed of an 8-week online component, a weeklong on-site problem-solving workshop, and individualised project-based interventions (Flys *et al.* 2012). Hence, the respondents' suggestions on the need to spread the programme for over a few days to allow for more robust engagement and content sharing, need for constant training and retraining to improve services in line with previous studies.

Limitations of the Study

The study was carried out in only one state out of the six states where the baseline assessment was done due to financial constraint. This might limit the generalisation of the study.

CONCLUSION

The study showed that community pharmacists were trained in HTS and MTM services. The opinion of the respondents showed that the training will be sufficient to effectively deliver HIV/AIDS services in their pharmacies through the knowledge and skill gained. Also, the study revealed that community pharmacists were satisfied with the content of the training developed and that the resource persons were also competent to deliver the training programme.

Recommendation

For sustainability of the provision of HIV/AIDS services by community pharmacists, training and continuous training in HIV/AIDS services should be established through continuous

professional development programmes. Further study will evaluate the effect of the training on the HIV/AIDS services provided by community pharmacists using same participants.

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ETHICAL CLEARANCE

Ethical clearance was obtained from Oyo State Research Ethical Review Committee, Ministry of Health, reference no. AD13/479/1240 and all the respondents signed the informed consent form attached to the questionnaire.

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