

### International STD Research & Reviews

8(2): 1-10, 2019; Article no.ISRR.51502 ISSN: 2347-5196, NLM ID: 101666147

### **Community Pharmacy Based Model for HIV Care** and Services: Attitudes and Perceptions of Practitioners in Jos, Nigeria

M. L. P. Dapar<sup>1\*</sup>, B. N. Joseph<sup>1</sup>, P. A. Damun<sup>1</sup>, C. R. Okunlola<sup>1</sup>, E. Ahmadu<sup>2</sup> B. M. Aya<sup>1,3</sup> and P. N. Alphonsus<sup>4</sup>

<sup>1</sup>Department of Clinical Pharmacy and Pharmacy Practice, University of Jos, Jos, Nigeria. <sup>2</sup>Faith Alive Hospital Foundation, Tafawa Balewa Way, Jos, Plateau State, Nigeria. <sup>3</sup>Bauchi CMVA Office, Bauchi State, Nigeria. <sup>4</sup>Panlat Pharmacy and Stores, Zarmaganda, Rayfield Road, Jos, Plateau State, Nigeria.

### Authors' contributions

This work was carried out in collaboration among all authors. Author MLPD conceptualized the study, wrote the protocol and managed the statistical analysis. Author BNJ also wrote the protocol and the first draft of the manuscript, Authors PAD and CRO managed the literature search, Authors PNA and EA managed the data collection and participated in drafting the manuscript. Author BMA managed data collection and also analyzed the study. All authors reviewed various drafts read and approved the final manuscript.

### Article Information

DOI: 10.9734/ISRR/2019/v8i230098

(1) Dr. Kailash Gupta, Division of AIDS, NIAID, NIH, USA.

Reviewers:

(1) Maclawrence Famuyiwa, Texila American University, Guyana. (2) Sarah Ibrahim Lawrence S. Bloomberg, University of Toronto, Canada Complete Peer review History: https://sdiarticle4.com/review-history/51502

Original Research Article

Received 09 July 2019 Accepted 16 September 2019 Published 26 September 2019

### **ABSTRACT**

Background: Differentiated care is an innovative multi-dimensional strategy for improving access to HIV care and treatment outcomes. However, its successful implementation depends on attitudes and perceptions of practitioners.

Objectives: This study assessed the attitudes and perception of community pharmacists on HIV differentiated care and services.

Methods: This was a cross-sectional survey of community pharmacists in Jos, Plateau state, Nigeria. The portion of the study reported in this paper consisted of a 10 items Likert questions to assess attitudes and perceptions of community pharmacists on differentiated HIV care and

<sup>\*</sup>Corresponding author: Email: xwelldapar@yahoo.com;

services. The Statistical Package for Social Sciences version 20 was used to manage data. The reliability of the instrument was calculated using Cronbach's alpha. Descriptive statistics were presented as tables and figures.

**Results:** Seventy-three 73 community pharmacists completed our questionnaire out of 110 distributed, giving a response rate of 66.4%. Mean age of respondents was  $37.7\pm7.8$  years. Cronbach's alpha for internal consistency of the perception scale was 0.9 indicating good reliability of the instrument. Overall, respondents had a positive perception regarding suitability and benefits of differentiated HIV care and services in community pharmacies. Highest agreement was to the perception that differentiated care would encourage collaboration between community pharmacies and the rest of the health system.

**Conclusion:** Willingness and positive perceptions of community pharmacists about the suitability and benefits of providing HIV differentiated care and services were identified.

Keywords: Community pharmacy; HIV differentiated care; attitude; perception; practitioners; Nigeria.

### 1. INTRODUCTION

Recent success in the fight against the human immunodeficiency virus/acquired deficiency syndrome (HIV/AIDS) indicated by the drop in the national prevalence from 3.1% to 1.5% [1,2], implies that Nigeria needs to build on this gain, by exploring multi-dimensional innovative strategies that will expand the provision of HIV/AIDS care beyond the hospital setting. This is even more imperative considering that the country is reliant on donor funding for provision of HIV/AIDS care and services[3]. Whereas donor support for HIV/AIDS care and services strengthen skills and professional capacity of the health care workforce, it overburdens the health systems and further weakens other health programs [4,5]. In order to decongest the health system and increase access to care for people living with HIV/AIDS who need additional support to improve the quality of care, adherence to antiretroviral therapy (ART) and retention on treatment, it is necessarv explore multi-dimensional to innovative models in settings like community pharmacies.

Specialized community pharmacy based HIV care, otherwise referred to as differentiated care, is a model built on the principle of task shifting and decentralization of care and services for the management of chronic diseases [6]. A pilot project, involving ten community pharmacies registered for the provision of differentiated care in Abuja, Nigeria, has shown that the model improves medication adherence and retention on care [7]. In the Southern part of Nigeria, a similar project was implemented where HIV care practitioners, working in 181 community pharmacies, provided differentiated care for nearly six thousand clients [8]. Studies have

shown that community-based pharmacists involved in HIV specialized care resulted in more face-to-face interactions with patients thus, providing them with opportunity to reinforce the relevance of ART medication adherence and identify patients who needed additional social support [9–11]. These positive findings underscore the strategic importance of shifting HIV care to the community pharmacy settings.

Utilizing community pharmacies for differentiated HIV care and services could increase uptake and retention in care, by eliminating bottlenecks and the often non discrete process of obtaining prescriptions in hospitals [12]. This would be particularly beneficial in many Nigerian societies where access to medical care is cumbersome. particularly on holidays or weekends and due to low income status of the society. In such situations, differentiated HIV care and services in community pharmacies offer viable and cost effective alternatives for patients and donor agencies that support ART programs. However, effective engagement of community pharmacies for provision of any health care services including differentiated HIV care depends to a large extent on the attitudes of health care providers who work in this system [13,14]. Moreover, attitudes and beliefs are important determinants of behaviour with regards to health choices [15]. Hence the attitudes and beliefs of community pharmacists would influence the range of alternatives they are willing to offer patients. Therefore, the objective of this study was to assess the attitudes and perceptions of community pharmacists on HIV/AIDS differentiated care services in Jos, Nigeria.

### 2. METHODS

The study was a cross-sectional survey of community pharmacists registered with the

Pharmacists Council of Nigeria, who were practicing in Jos-North and Jos-South Local Government Areas of Plateau State, Nigeria at the time of data collection in 2018. Questionnaire for the study was developed in several stages of drafts and reviews, guided by the literature and in consultation with specialists and experts in HIV/AIDs care and services. Pre-test of the draft questionnaire was undertaken in a small sample of academic and hospital pharmacist, because of the limited number of the study population. The final questionnaire consisted of four sections: Demographic characteristics of respondents. Competencies of community pharmacists for HIV care and services. Views and attitudes of community pharmacists regarding differentiated HIV care and services, Community pharmacists' knowledge of HIV pharmacotherapy. The sections on knowledge and competencies have been reported elsewhere along with details of the methods for the wider study for which this was a part [16]. The portion of the study reported in this paper consisted of 10 questions on a Likert scale, to assess attitudes and perceptions of community pharmacists on differentiated HIV care and services. Data for the study were collected between September and October, 2018.Respondentscompleted and returned written informed consent along with the questionnaire.

### 2.1 Sampling Strategy

The list of registered community pharmacies in Jos metropolis was obtained from the Plateau State office of Pharmacists Council of Nigeria. This was the sampling frame used to recruit participants for the study. 110 questionnaires were distributed to 97 pharmacies for self completion by community pharmacists who worked in the premises either owners, superintendents or locums (part-time).

### 2.2 Data Analysis

Collected data was managed and stored on a database created in the Statistical Package for the Social Sciences (SPSS) version 20. Reliability of the attitude scale was evaluated using Cronbach's alpha for internal consistency, with a value above 0.7 set as the acceptable level of reliability. Descriptive statistics consisting of frequencies and percentages of agreement or disagreement for individual perception statements was calculated for respondents. Factor analysis was used to identify underlying domains of perception. Aggregate scores for

each of the perception domains were calculated from the Likert scale. Scores of 1 and 2 made up negative perception 3 was undecided while 4 and 5 made up positive perception. Frequencies and percentages for each of the domains were calculated while Kruskal-Wallis test for non-parametric variables was used to compare perception of community pharmacists on the basis of their years of experience, educational level and employment status.

### 3. RESULTS

### 3.1 Demographic Characteristics

Seventy three 73 community pharmacists completed our questionnaire out of 110 distributed, giving a response rate of 66.4%. Mean age of respondents was 37.7±7.8 years. Majority of respondents had spent more 10 years in community pharmacy practice. Less than one third (29,1%) of respondents had any postgraduate qualification (Table 1).

### 3.2 Perception of Respondents on Differentiated HIV Care

Cronbach's alpha for internal consistency of the perception scale was 0.9 indicating good reliability of the instrument. Overall, respondents had a positive perception of differentiated HIV care and services in community pharmacies. A highest agreement was to the perception that differentiated care would encourage collaboration between community pharmacies and the rest of the health system. Similarly there were high agreements in perception that differentiated HIV care in community pharmacies would promote medication adherence just as community pharmacists respect views, values and cultural beliefs of patients (Table 2).

### 3.3 Sub-domains of Community Pharmacists' Perception on Differentiated HIV Care

Factor analysis identified two sub-domains of perception, namely: perceived suitability of community pharmacies for differentiated care and perceived benefits of community pharmacies for differentiated care. Items that made up the two domains are shown in Table 3.

Community pharmacists were mainly positive in their perception of differentiated HIV care and services both in terms of the suitability of the setting and the benefits (Figs. 1 and 2). There were no statistically significant differences in the expression of perception in terms of years of status of community pharmacists.

Table 1. Demographics characteristics of respondents

Characteristic	Frequency (n)	Percentage (%)		
Sex				
Male	45	61.6		
Female	28	38.4		
Highest educational qualificat	ion			
B.Pharm.	50	69.4		
PharmD	1	1.4		
M, Sc/M Pharm/MA	14	19.4		
FPCPharm	6	8.3		
PhD	1	1.4		
Years of practice in communit	y pharmacy			
0-5	17	23.3		
6-10	23	31.5		
11 Plus	32	45.2		
<b>Employment status in commu</b>	nity pharmacy			
Owner	31	42.5		
Superintendent	26	35.6		
Locum	16	21.9		

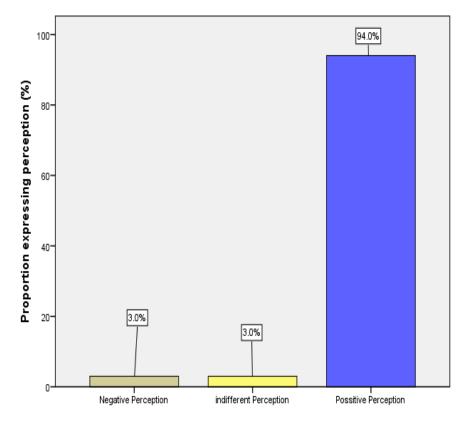


Fig. 1. Perceived suitability of community pharmacies for differentiated HIV care and services

Table 2. Aggregate scores on perception of community pharmacists on differentiated care (n = 73)

Statement of perceptions and attitudes		Percentage response			
·	Agree	Not sure	Disagree	Total	
I am willing to respect the views, values, culture, religious and health belief of my clients	84.9	6.8	2.8	94.5	
I will provide HIV care and services as much as I do to other category of patients in the community pharmacy	84.9	6.8	4.1	95.9	
Differentiated care will encourage collaboration between community pharmacies and the health systems	91.8	1.4	1.4	94.5	
Differentiated HIV care has potential to promote adherence to antiretroviral medications and retention in care	87.7	5.5	2.8	95.9	
Differentiated care in community pharmacies provides closer access for patients	83.5	4.1	6.8	94.5	
Community pharmacists have relevant knowledge and skills to provide HIV/AIDS care and services	74.0	17.8	4.1	95.9	
My community pharmacy has befitting outlay that guarantees patients confidentiality	80.9	9.6	5.4	95.9	
Differentiated care is likely to reduce workload of hospitals and provide quality health care	85.0	6.8	4.1	95.9	
I am willing to provide access to client during weekends and at nights	69.9	15.1	8.2	93.2	
Differentiated care will increase the income of community pharmacists	74.3	15.1	9.6	95.9	

All totals less than 100% due to missing values

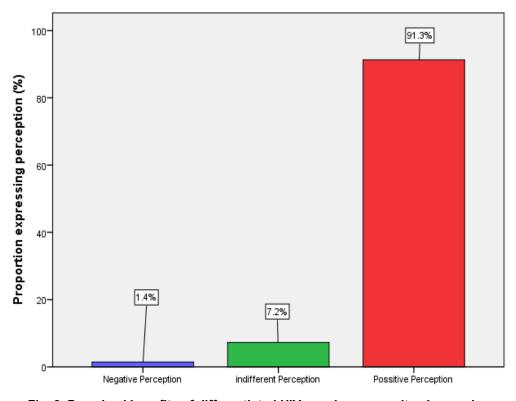


Fig. 2. Perceived benefits of differentiated HIV care in community pharmacies

Table 3. Factor loading on sub-domains of community pharmacists' perception of differentiated care

Deposition demain	Landing on domain
Perception domain	Loading on domain
<b>Perceived suitability of community pharmacies for differentiated care</b>	
My community pharmacy has befitting outlay that guarantees patients	.810
confidentiality	
I am willing to provide access to client during weekends and at nights	.795
Differentiated HIV care has potential to promote adherence to antiretroviral	.703
medications and retention in care	
I will provide HIV care and services as much as I do to other category of	.670
patients in the community pharmacy	
Differentiated care is likely to reduce workload of hospitals and provide	.616
quality health care	
Community pharmacists have relevant knowledge and skills to provide	.578
HIV/AIDS care and services	
Perceived benefits of community pharmacies for differentiated care	
Differentiated care will increase the income of community pharmacists	.865
Differentiated care will encourage collaboration between community	.751
pharmacies and the health systems	
Differentiated care in community pharmacies provides closer access for	.531
patients	
I am willing to respect the views, values, culture, religious and health belief	.525
of my clients	

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization

### 4. DISCUSSION

While the general perception of community pharmacists on differentiated care overwhelmingly positive. Our study identified two major domains that defined pharmacists' perception: perceived suitability, which relates to the feasibility, reliability and justification for community pharmacy based HIV/AIDS services and perceived benefit, which denotes the potential benefit in terms of satisfaction and loyalty accruable to both the pharmacists and the patients. Perceived suitability explored an array of supportive activities that enhances interprofessional collaboration. advisory educative roles that promotes adherence, patient's confidentiality, cultural orientation and belief, strength and opportunities (improved positive perceptions of community These pharmacists are important determinants of their positive behaviour, as established by previous research that attitudes and beliefs shape health choices [15].

Findings in our study indicated overall positive attitudes and perceptions of community pharmacists, for the suitability of community pharmacies for differentiated HIV care and services. These compared to findings of a study in South-East Nigeria, where majority of the respondents showed positive disposition towards

using their premises for differentiated HIV care [17]. Similarly, community pharmacists in our study indicated they were willing to extend access to differentiated HIV care for clients during weekends and at nights. Furthermore, our findings corroborated reports of SIDHAS/FHI 360, who conducte baseline assessments of community pharmacists' willingness to provide HIV care in Southern Nigeria, where over 90% of the community pharmacists and one third of their clients were willing to offer and receive HIV care respectively [8]. The positive disposition of community pharmacists in our study highlights the feasibility and usefulness of task shifting in HIV care. Apart from proximity of community pharmacies for access, decentralization of HIV services to community pharmacies guarantees patient's privacy. This engenders patients' satisfaction and loyalty to the pharmacists and allays their concerns about stigma. This atmosphere of trust can be exploited in reducing treatment barriers, as a means of meeting the UNAIDS 90-90-90 targets of ending HIV/AIDS epidemic by 2020.

Our findings also reflected results of a study in the UK, where pharmacists especially those at the lower cadre, demonstrated enthusiasm and willingness towards extended clinical roles in primary care. Pharmacists in that study were of the view that their clinical roles reduced workloads of general practitioners, and provided the overriding conditions for efficient and effective patient care [17]. In our study, majority of the respondents perceived that differentiated care will reduce workload of hospitals and provide quality healthcare. Willingness and positive attitudes towards any practice such as differentiated HIV care, has been shown in several research to be major determinants with potential to enhance service delivery [12–15,18]. This may come about as a result of the increased collaboration between the community pharmacists and other health care professionals. as identified in our study. These also corroborated findings of researchers in Malaysia, who examined attitudes, practices and barriers to community pharmacists, led weight management. They found that collaboration and support counseling between community pharmacists and other health care practitioners resulted in better outcomes [19].

The perceived suitability of the differentiated care model in our study was also anchored on the conviction of majority (87.7%) of respondents, that the model would improve adherence to antiretroviral medicines and promote retention on care. This agreed with results of a pilot project conducted among community pharmacies providing differentiated care in Abuja, Nigeria, which demonstrated benefits of this model for improving HIV medication adherence [7]. Moreover, the view expressed by our study participants that differentiated HIV care model provided closer access to patients, fits into the overall frame for better adherence. Closer access to care goes beyond mere geographical proximity as reported by several authors. Researchers described the suitability of community pharmacists for enabling individuals gain easy entry into the health system, by providing extended clinical roles in response to changing demands of the society [20,21]. This was also in agreement with several research reports that evaluated views of pharmacists, general practitioners and patients in England, regarding the integration of community pharmacies into primary care pathways for people with chronic diseases. The authors found majority support and consensus among all stake holder groups in the study, that community pharmacies improved access to care and provided a more convenient treatment pathway [22,23].

A benefit of HIV differentiated care model according to our study participants was respondents' respect for views, values, culture,

religious and health beliefs of clients. This aligned with the growing advocacy for health practitioners to possess competency to enhance the provision of quality services [24,25]. This is critically important in removing health inequalities and promoting wider access to services such as Differentiated HIV care. Presently, patients and other health care practitioners have shown some level of acceptance for extended roles for pharmacists [26]. A critical component that may function either as facilitator or barrier to full roll out of this model remains more in the domain of pharmacists perceptions in agreement with the theory of planned behaviour, which corrects health behaviour with intentions of pharmacists [27].

## 4.1 Strengths and Limitations of the Study

This study adds to the scholarship differentiated care for HIV/AIDS care in Nigeria by identifying two major constructs that defines pharmacists' attitudes and perceptions, these are: perceived benefit and perceived suitability which can be used as a pilot study for implementation of differentiated care. This will serve as a springboard for HIV/AIDS policy making. Our study was limited by the fact that our findings relied solely on self-reporting by community pharmacists who may have subjected to been social desirability information biases. Notwithstanding, the generated remains invaluable at this early stage of implementation of differentiated HIV care and task shifting to community pharmacies.

### 5. CONCLUSION

We identified the willingness and positive perceptions of community pharmacists about the suitability and benefits of providing HIV differentiated care and services in their practice setting.

### CONSENT

Respondents filled and returned written informed consent form; they were assured of strict and utmost confidentiality.

### **ETHICAL APPROVAL**

The ethical clearance for this study was obtained from the Bingham University Teaching Hospital, Jos, Nigeria. The ethical clearance reference NHREC/21/05/05/00571 was dated 11/10/2018.

### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

### REFERENCES

- National Aids Control Programme Federal Ministry of Health. National Guidelines for HIV Prevention Treatment and Care; 2016.
- 2. FMOH N. 1. Nigeria HIV/AIDS Indicator and Impact Survey; 2018.
- 3. Unaids. UNAIDS report on the global AIDS epidemic.Global Report; 2013.
- 4. Bennett S, Boerma JT, Brugha R. Scaling up HIV/AIDS evaluation. Lancet (London, England). 2006;367(9504):79–82.
- 5. Evans T, Stansfield S. Editorials Health information in the new millennium: a gathering storm? Bulletin of the World Health Organization. 2003;81.
- Gray A, Conradie F, Crowley T, Gaede B, Gils T, Shroufi A, et al. Improving access to antiretrovirals in rural South Africa – A call to action. South African Med J. 2015; 105(8):638.
- 7. Avong YK, Aliyu GG, Jatau B, Gurumnaan R, Danat N, Kayode GA, et al. Integrating community pharmacy into community based anti-retroviral therapy program: A pilot implementation in Abuja, Nigeria. Fernandez-LLimos F, editor. PLoS One. 2018;13(1):e0190286.
- SIDHAS/FHI 360. Getting community pharmacists on the differentiated care train in Nigeria: Strengthening integrated delivery of HIV services Crowd 360Crowd 360 [Internet]; 2018.
   Available:https://crowd360.org/pharmacists differentiated-care-nigeria/ [Cited 2019 Jul 5].
- Kibicho J, Owczarzak J, Pinkerton SD. Opinions of a Small Sample of Pharmacists About Pharmacy Setting and Patient Adherence to Antiretroviral Therapy. J Manag Care Pharm. 2012; 18(6):446–52.
- Brennan TA, Dollear TJ, Hu M, Matlin OS, Shrank WH, Choudhry NK, et al. An Integrated Pharmacy-Based Program Improved Medication Prescription And Adherence Rates In Diabetes Patients. Health Aff. 2012;31(1):120–9.
- 11. Kibicho J, Owczarzak J. Pharmacists' strategies for promoting medication adherence among patients with HIV. J Am Pharm Assoc. 2011;51(6):746–55.

- Kelly Blanchard, Teresa Harrison, and Mosala Sello. Pharmacists' knowledge and perceptions of emergency contraceptive pills in Soweto and the Johannesburg Central Business District, South Africa. Int Fam Plan Perspect. 2005;31(4):172–178.
- Kristi K. Van, Riper and Wendy L., Hellerstedt. Emergency Contraceptive Pills: Dispensing Practices, Knowledge and Attitudes of South Dakota Pharmacists. Perspect Sex Reprod Health. 2005;37(1):19–24.
- MORRIS RM. Assessing utilization of family planning services among women of reproductive age (15-49 Yrs) in North Kanyabala Sub-Location, Homabay Sub-County. J Biol Agric Healthc. 2011;5(7): 142–53.
- Ajzen I. The theory of planned behavior. Organ Behav Hum Decis Process. 1991; 50(2):179–211.
- Dapar MLP, Joseph BN, Damun PA, Okunlola CR, Alphonsus PN, Aya BM. Assessment of knowledge and competencies of community pharmacists for differentiated HIV care and services in Jos, Nigeria. J Pharm Res Int. 2019;1–10.
- Butterworth J, Sansom A, Sims L, Healey M, Kingsland E, Campbell J. Pharmacists' perceptions of their emerging general practice roles in UK primary care: A qualitative interview study. Br J Gen Pract. 2017;67(662):e650–8.
- 18. Schwandt HM, Speizer IS, Corroon M. Contraceptive service provider imposed restrictions to contraceptive access in urban Nigeria. BMC Health Serv Res. 2017;17(1):268.
- Verma RK, Paraidathathu T, Taha NA, Chong WW. Attitudes, practices, and barriers of Malaysian Community Pharmacists Toward Provision of Weight Management Services. Front Pharmacol. 2019:10:138.
- Nunes FG, Anderson JE, Martins LM. Patient reactions to community pharmacies' roles: evidence from the Portuguese market. Health Expect. 2015; 18(6):2853–64.
- Kelling SE. Exploring accessibility of community pharmacy services. Inov Pharm. 2015;6(3).
- 22. Hindi AMK, Schafheutle EI, Jacobs S. Community pharmacy integration within the primary care pathway for people with long-term conditions: a focus group study

- of patients', pharmacists' and GPs' experiences and expectations. BMC Fam Pract. 2019;20(1):26.
- 23. Hindi AMK, Schafheutle EI, Jacobs S. Patient and public perspectives of community pharmacies in the United Kingdom: A systematic review. Heal Expect. 2018;21(2):409–28.
- 24. Weech-Maldonado R, Elliott M, Pradhan R, Schiller C, Dreachslin J, Hays RD. Moving Towards Culturally Competent Health Systems: Organizational and market factors. Soc Sci Med. 2012; 75(5):815.
- Chicago IIHR& ET. Becoming a Culturally Competent Health Care Organization; 2013.
- 26. Hindi AMK, Schafheutle EI, Jacobs S. Patient and public perspectives of community pharmacies in the United Kingdom: A systematic review. Health Expect. 2018;21(2):409–28.
- 27. Walker A, Watson M, Grimshaw J, Bond C. Applying the theory of planned behaviour to pharmacists' beliefs and intentions about the treatment of vaginal candidiasis with non-prescription medicines. Fam Pract. 2004;21(6):670–6.

# APPENDIX Questionnaire

1. Demographic data						
Age						
Sex	Male □	Female □				
Marital Status	Married □	Single   widowe	ed □			
Highest Qualification	B. Pharm	MSc/MPharm/N	MA and FPC	Pharm 🗆	FPC Phai	rm. 🗆 PhD
Years after graduation						
Position in community						
pharmacy	Owner $\square$	superintended	pharmacist	□ Locui	m pharma	acist 🗆
2. Community pharmacists	i	Strongly	Disagree	Not	Agree	Strongly
perception and attitude abo	out	disagree[1]	[2]	sure[3]	[4]	agree [5]
integrated community phar	rmacy					
HIV care and services						
Differentiated care is likely to	reduce					
workload of hospitals and pro	ovide					
quality health care						
Differentiated HIV care has p						
promote adherence to antiret	troviral					
medications and retention in	care					
Differentiated care will increa						
income of community pharma						
Differentiated care will encourage						
collaboration between community						
pharmacies and the health systems						
Community pharmacists have						
knowledge and skills to provi						
HIV/AIDS care and services						
I will provide HIV care and se						
much as I do to other catego						
patients in the community ph						
My community pharmacy has						
outlay that guarantees patien	nts					
confidentiality						
I am willing to provide access						
during weekends and at nigh	ts e.g. (7-					
9 pm)						
Differentiated care in commu						
pharmacies provides closer a	access for					
patients						
I am willing to respect the vie						
values, culture, religious and	health					
belief of my clients						

© 2019 Dapar et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
https://sdiarticle4.com/review-history/51502