



Community Pharmacists Differentiated Care Services in HIV/AIDS Management in Rivers State, Nigeria

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Abstract

The “test and treat” recommendation of WHO for all people newly diagnosed with HIV based on sufficient evidence that early ART initiation reduces morbidity and mortality among AIDS patients promoted expanded strategies for universal access. This call for expanded strategies of universal access to antiretroviral resulted in an upsurge of patients in public health facilities causing long waiting times and dissatisfaction which are poorly staffed with inadequate facilities. The overcrowding of public health facilities resulted in the devolvement of patients to community pharmacies. This study evaluates the roles of community pharmacies as outreach to people living with AIDS through access to potent antiretroviral initiated to reduce morbidity and mortality. Respondents were mostly males with a modal age of 50-59 with positive attitudes and perceptions with high knowledge. Responsive provision of screening tests and adherence modification through telephones and SMS enhanced by behavioural adherence training were key features of care. The study reveals a clear reduction of the burden of treatment visits, and costs and sustains treatment outcomes tailored to the needs of various groups of people living with HIV/AIDS in the Differentiated care service delivery of community pharmacies.

Keywords: Differentiated Care; Community Pharmacists Based-Care; Innovative Services

Abbreviations

HIV: Human Immunodeficiency Viruses; AIDS: Acquired Immune Deficiency Syndrome; ART: Antiretroviral Drugs;

WHO: World Health Organization; DSD: Differentiated Service Delivery; PCN: Pharmacists' Council of Nigeria.

Introduction

HIV/AIDS is one of the major global public health concern having claimed more than 35 million people worldwide especially in the developing countries and sub-Sahara Africa in particular [1] with Nigeria been reported to have the second highest burden of HIV/AIDS in the world with an estimate of 3,391,546 people living with HIV/AIDS and 174,253 death related to AIDS [2]. The 27.4 million people living with HIV in 2000 has increased to 36.9 million in 2017 despite improved access to antiretroviral drugs (ART) that has reduced the mortality. Many healthcare providers have not had the necessary and satisfactory training on HIV prevention and treatment, resulting in low manpower and staff capacity [3].

Moreover, it is estimated that out of 1,665,403 (1,454,564 adults and 210,838 children) people that are in need of ART in 2014, only 748,846 adult and children received prescription of ART [2]. They opined that Patient counseling, with access to antiretroviral agents is key strategy in HIV/AIDS prevention and survival of infected individuals. Odimegwu CO, et al. [4] reported that only a little fraction of the estimated 3.5 million people living with the virus in Nigeria had access to antiretroviral therapy which has produced a reduction of national prevalence from 3.1% to 1.5%. Hence expanding the strategies of universal access to antiretroviral are critical steps to achieving HIV/AIDS vision 2020 which aims at ending AIDS episode by 2030. The “test and treat” recommendation of WHO for all people newly diagnosed with HIV was based on the sufficient evidence that early ART initiation reduces morbidity and mortality among AIDS patients [5].

Most patients receiving ART in public facilities with high client load with limited human resources experience long waiting time resulting client dissatisfaction and reduced retention on treatment [6]. Differentiated service delivery (DSD) - a client-centered approach has help HIV services to better individual needs and reduced unnecessary burden on the health system [7]. The WHO eradication of HIV/AIDS bid by 2030 thereby promoted the use of community based ART as a global strategy [2]. This care targets stable patients, reduces clinic visits and may alter the providers cadre and package, aided at making treatment patients-centered by reducing the burden of treatment visit, cost to both health care system and the patient with sustained clinical treatment outcomes [8]. Differentiated care is defined as a client centered approach that simplifies and adopts HIV services across the cascade in a way that both serves needs of PLHIV better and reduce unnecessary burden on the health system [9]. Its concepts is to simplifies task shifting and decentralization thereby promoting more responsive model of care tailored to the needs of various groups of people

living with AIDS.

Differentiated care models when implemented, infused support to the attainment of the global target for HIV treatment while maintaining optimal quality of care. The core concepts of Differentiated care include but not limited to:

1. The provision of client-centered care to ensure health systems efficiencies.
2. Constantly adoption to address the challenges of access and quality of care and treatment outcomes.
3. Sub-populations of PLHIV which include children, key population of pregnant and breast-feeding women, and adolescence that have different need that should be provided.
4. Clinical stage of disease and living environment of PLHIV.

Differentiated care is reported to be a resource efficient model for people living with AIDS and do not compromise patient care [5]. In their opinion, the differentiated care models using community pharmacists’ drug distribution points promote adherence of 95% and a CD4 count greater than 350 cell/mm³.

Evidence based understanding of Differentiated service delivery will help to design policy to improve the outcomes. This study aimed to ascertain the community pharmacies as effective outreach points to people living with HIV as well as their practice behavior in the management of HIV/AIDS.

Methods

Study Location

The study was carried out in Rivers State in South-south region of Nigeria. The selected community pharmacies were the premises registered by the Pharmacy Council of Nigeria across the state and the cohort set of pharmacists trained and designated for the patient devolvement to community pharmacies by the virology institution for the HIV/AIDS management programme located across the state.

Study Design

A cross-sectional survey of identified trained community pharmacists by the Virology Research Institute of Nigeria for the HIV/AIDS devolvement programmed in Rivers State.

Sampling Method

The 48 trained community pharmacists for the HIV/AIDS devolvement program in Rivers State were identified from the Institute data base and contacted for their consent and willingness to participate in the survey by filling the Google form questionnaire sent to them followed up with

reminder. A total of 48 responses were received and the responses were cleaned and then analysed.

Data Collection

A survey tool consisting of a set of structured questionnaire was distributed to a cross-section of respondents comprising of community pharmacists identified through the data-based information of the Virology Institute representative in Rivers State, Nigeria. Survey items eliciting demographic, pharmacists' perception and attitude on differentiated care, pharmacist's knowledge of differentiated care services, differentiated care practices in HIV/AIDS management generated from the literature and qualitative interviews was employed. This study will aim to describe the perception, attitude, and knowledge and practices of differentiated care in the management of HIV/AIDS in community pharmacies and generate outcomes from the data.

Study Area and Sites

This study was performed in selected community pharmacies registered by the Pharmacists Council of Nigeria that are participating in the patients devolvement to community pharmacies that meets the selection criteria in Rivers State to determine the outcome benefit of differentiated care was carried out.

Population of the Study\Study Instruments

Primary data were employed and collected with the aid of a pretested semi-structured questionnaire. The first section consisted of items seeking to obtain demographic information about the community pharmacists. The second to fifth sections addresses the specific objectives of the study

designed using simple statements on a Likert-type scale with five alternative responses having weighting scores of 0-4.

Eligibility Criteria

All registered community pharmacists participating in the patients devolvement programme whether licensed for the year or not with Pharmacists' Council of Nigeria (PCN) will be included in the study. All community pharmacies registered with the Pharmacists' Council of Nigeria (PCN) but not participating in the patients devolvement programme and not willing to participate in the study will be excluded.

Data Analysis

The collected quantitative data were analyzed using SPSS version 26 (Chicago, IL). Pharmacists' demography were analyzed using descriptive statistics and presented in frequencies and percentages while the relationships between major demographic characteristics were analyzed using Chi-square. The inferential statistics at 5% level of significance were recorded.

Results

Table 1 presents the response analysis of community pharmacists involved in the HIV/AIDS patients devolvement to community pharmacies. A total of 48 pharmacists were identified and the questionnaires were sent to them through the Google form platform on WhatsApp. Forty-five responses were received giving a return rate of 93.75%. The computation of the pretest gave a reliability coefficient value of 0.86. The Cronbach's value obtained of the internal consistency for the questionnaire was 0.97 after modification of questionnaire.

No of pharmacists	No of questionnaire administered	No of questionnaire returned	Response rate (%)
48	48	45	93.75

Table 1: Response analysis of sampled community Pharmacists in Rivers State involved in the patient's devolvement to community pharmacies.

Table 2 presents the demographic characteristics of community pharmacists involved in the HIV/AIDS patients devolvement to community pharmacies. Majority 29(64.4%) of the respondents are male with modal age of 50-59. They have almost even distribution of highest qualification possessed of the first degree of B. Pharm/PharmD and second degree of M.Sc/M.Phil with M.Sc/M.Phil slightly higher

21(46.7%) while B.Pharm/PharmD is 20(44.4%). Trivial portion 4(8.9%) possessed Ph.D as highest educational qualification. Majority 19(43.2%) possesses year of practice experience of 21-25 with trivial portion 4(9.1%) of 15-30 and a few portion 10(22.7%) above 30. Minuscule portion 3(6.8%) are 11-15.

Variable	Category	Frequency (n= 45)	Percentage
Gender	Male	29	64.4
	Female	16	35.6

Age	20-29	0	0
	30-39	11	24.4
	40-49	7	15.6
	50-59	19	42.2
	60 and above	8	17.8
Qualifications	B.Pharm/B.Sc	20	44.4
	M.Sc/M.Ph	21	46.7
	Ph.D	4	8.9
Year of Practice	Below 4	0	0
	5-Oct	5	11.4
	Nov-15	3	6.8
	16-20	2	4.5
	21-25	19	43.2
	16-30	4	9.1
	Above 30	10	22.7

Table 2: Demographic characteristics of Community pharmacists involved in the HIV/AIDS patients devolvement to community pharmacies in Rivers State.

Table 3 presents the community Pharmacists' involved in the patients devolvement to community pharmacists' perceptions and attitude towards Differentiated care delivery in HIV/AIDS management. The respondents show 80-100 % responses of Agreement to Nine (9) out of the ten (10) statements employed in the measurement of the perception and attitude of community pharmacists. Four out of the nine statements have weighted averages (WA) of 13.5 which include "Willing to respect the view of clients belief", "Willing to provide HIV care like any other

services within the premises", "Community pharmacists possessing relevant knowledge and skill to provide HIV care and services", and "Community pharmacies having Befitting outlay that guarantees patients confidentiality". The statement "Differentiated care will increase the income of community pharmacists" have the least WA of 9.3. The mean of weighted average of perceptions and attitude of community pharmacists towards differentiated care services was computed to be 12.65.

Variables		N	SD	D	A	SA	Mdn	WA
n=45	X	0	1	2	3	4		
I am willing to respect the views, values, cultures, religion and health belief of my clients	F	0	0	0	45	0	1	13.5
	%	0	0	0	100	0		
I will provide HIV care and services as much as I do to other category of patients in the community pharmacy	F	0	0	0	45	0	1	13.5
	%	0	0	0	100	0		
Differentiated care will encourage collaboration between community pharmacies and health system	F	5	0	1	39	0	1	11.9
	%	11.1	0	2.2	86.7	0		
Differentiated HIV care has potential to promote adherence to antiretroviral medications and retention in care	F	1	0	0	44	0	1	13.2
	%	2.2	0	0	97.8	0		

Differentiated care in community pharmacies provides closer access for patients	F	3	0	0	42	0	1	12.6
	%	6.7	0	0	93.3	0		
Community pharmacists have relevant knowledge and skill to provide HIV/aids care and services	F	0	0	0	45	0	1	13.5
	%	0	0	0	100	0		
My community pharmacy has befitting outlay that guarantees patients confidentiality	F	0	0	0	45	0	1	13.5
	%	0	0	0	100	0		
Differentiated care is likely to reduce workload of hospitals and provide quality health care	F	1	0	0	44	0	1	13.2
	%	2.2	0	0	97.8	0		
I am willing to provide access to client during weekends and at nights	F	4	0	0	41	0	1	12.3
	%	8.9	0	0	91.1	0		
Differentiated care will increase the income of community pharmacists	F	14	0	0	31	0	1	9.3
	%	31.1	0	0	68.9	0		
MWA								12.7

Table 3: Community pharmacists involved in the patients devolvement to community pharmacies' Perception and Attitude to Differentiated care delivery in HIV/AIDS management in Rivers State.

SA= Strongly Agree, A=Agree, N= Neutral, D= Disagree, SD= Strongly Disagree, WA= Weighted Average, Mdn= Median, f= frequency, %= percentage. MWA=Mean of weighted average.

Table 4 presents the community pharmacists knowledge about differentiated care in HIV/AIDS management. The seven statements employed in measuring the knowledge of community pharmacists registered responses of Strongly agreed of 60-70% in four of the statements, while the other three registered 68.9,66.7 and 55.6 percent responses of strongly agreed. Few responses of neutral was recorded in four of the statements. The statement "Evaluation of patients

ability to adhere to medication regiment is a responsibility provision of differentiated care services in MTM" with Strongly agreed 34(75.6%), Agreed 5(11.1%) and Neutral 6(13.3%) while "Managing adverse drug reactions and medication side effects is a differentiated care in Medication therapy management(MTM) in HIV" recorded Strongly agreed 25(55.6%), Agreed 9(20.0%) and Neutral 10(22/2%) is the statement with least responses.

Variables		N	SD	D	A	SA	Mdn	WA
n=45	X	0	1	2	3	4		
Managing adverse drug reactions and medication side effects is a differentiated care in Medication therapy management(MTM) in HIV	f	10	0	1	9	25	1	12.9
	%	22.2	0	2.2	20	55.6		
Evaluation of patients ability to adhere to medication regiment is a responsible provision of differentiated care in MTM	f	6	0	0	5	34	1	15.1
	%	13.3	0	0	11.1	75.6		
Tailoring drug regimen to accommodate specific patient need is responsible requirement in HIV/AIDS management	f	1	0	0	10	34	1	16.6
	%	2.2	0	0	22.2	75.6		
Improving adherence to ART regimen results in more rational use strategy	f	0	0	0	15	30	1	16.5
	%	0	0	0	33.3	66.7		
MTM decrease occurrence of opportunistic infections	f	1	0	0	11	33	1	16.5
	%	2.2	0	0	24.4	73.3		

MTM reduce costs through more rational medication usage and reduced needs for medical services	f	1	0	0	13	31	1	16.3
	%	2.2	0	0	28.9	68.9		
Access to HIV testing will contribute positively towards the success of HIV differentiated care	f	5	0	0	5	35	1	15.5
	%	11.1	0	0	11.1	77.8		
MWA								15.6

Table 4: Community pharmacists Knowledge of Differentiated care delivery in HIV/AIDS management in Rivers State.

SA= Strongly Agree, A=Agree, N= Neutral, D= Disagree, SD= Strongly Disagree, WA= Weighted Average, Mdn= Median, f= frequency, %= percentage. MWA=Mean of weighted average.

Table 5 presents the Differentiated care services practices in HIV/AIDS management of community pharmacists. The statement employed in the measurement of differentiated care services practices recorded above 60% responses of daily activities in ten of the twelve statements with "Adherence improvement and viral suppression through Medication therapy management" having the highest WA of 17.6, daily activities response of 41(91.1%) and 4(8.9%) for weekly activities responses. This is followed by "Synchronizes prescription refills" with WA of 17.0, daily activity response of 35(77.8%) and 10(22.0%) of weekly activities. "I engage the Behavioral skill or medication adherence training in my

community pharmacy" takes the next activity with WA of 16.8 daily activity response of 33(73.3%) and weekly activity response of 12(26.7%). The next is "Adherence support through routine review of prescription refills history" with WA of 16.7, daily activity response of 32(71.1%) and weekly response of 13(28.9%). The least activity engaged is "Provide PreExposure services to High risk people" with WA of 13.3 with daily activity of 18(40.0%) and weekly activity response of 17(37.8%). This is followed by "I use the SMS as means of enhance adherence in my community pharmacy" with WA of 14.7, daily activity response of 20(33.4%) and weekly activity response of 17(37.8%).

Variables	n=45	X	Neu	Rar	Som	Oft	Alw	Mdn	WA
			0	1	2	3	4		
I carry out HIV/AIDS Screening as risk reduction strategy in my community pharmacy	f	0	0	4	6	35	1	16.6	
	%	0	0	8.9	13.3	77.8			
I use telephone to enhance adherence in my community pharmacy	f	0	0	0	17	28	1	16.3	
	%	0	0	0	37.8	62.2			
I use the SMS as means of enhance adherence in my community pharmacy	f	0	0	8	17	20	2	14.7	
	%	0	0	17.8	37.8	44.4			
I engage the Behavioral skill or medication adherence training in my community pharmacy.	f	0	0	0	12	33	1	16.8	
	%	0	0	0	26.7	73.3			
Synchronizes prescription refills	f	0	0	0	10	35	1	17	
	%	0	0	0	22.2	77.8			
Adherence support through routine review of prescription refills history	f	0	0	0	13	32	1	16.7	
	%	0	0	0	28.9	71.1			
Adherence improvement and viral suppression through Medication therapy management	f	0	0	0	4	41	1	17.6	
	%	0	0	0	8.9	91.1			
Provide PreExposure services to High risk people	f	5	0	5	17	18	1	13.3	
	%	11.1	0	11.1	37.8	40			
Assist substance use disorder treatment	f	0	0	9	8	28	1	15.4	
	%	0	0	20	17.8	62.2			

Support access and education on sterile syringe and injection safety	f	5	0	1	10	29	1	14.8
	%	11.1	0	2.2	22.2	64.4		
Quick response outreach services through provision of PreExposure and nonoccupational postExposure prophylaxis services	f	4	0	6	1	34	1	15.1
	%	8.9	0	13.3	2.2	75.6		
Quick response outreach through provision of sterile syringes and injection safety	f	4	0	1	10	30	1	15.2
	%	8.9	0	2.2	22.2	66.7		
Mean of weighted Average(MWA)								15.8

Table 5: Differentiated care in practices in HIV/AIDS management among community pharmacists in Rivers State.

Nev= Never done, Rar=Done raely(Once yearly), Som= Done some time(Once monthly),Often done(Once weekly) Alw=Done always(Daily) SMS= Short message services.WA= Weighted Average, MWA=Mean of weighted average, Mdn= Median, f= frequency, %= percentage.

Table 6 presents the ranking of the differentiated cares in HIV/AIDS management activities by community pharmacists in the commonest activities of HIV/AIDS screening, the use of telephone to enhance adherence, the use of SMS to enhance adherence and the use of behavioral skill or medication adherence training by community pharmacists in differentiated care services. The highest ranking service is "I carry out HIV/AIDS Screening as risk reduction strategy in my community pharmacy" with WA of 12.6 and highest

response of 16(35.6%), the second "I engage the Behavioral skill or medication adherence training in my community pharmacy" with WA of .12.2 with highest ranking responses of 22(48%), the third "I use telephone to enhance adherence in my community pharmacy with WA of 9.6 and ranking response of 11(24.4%) while the least is "I use the SMS as means of enhance adherence in my community pharmacy" with WA of 9.4 and a ranking response of 1(2.2%).

Variables	X	Low	High	Higher	Highest	Mdn	WA
		1	2	3	4		
I carry out HIV/AIDS Screening as risk reduction strategy in my community pharmacy	F	10	5	14	16	3	12.6
	%	22.2	11.1	31.1	35.6		
I use telephone to enhance adherence in my community pharmacy	f	20	10	4	11	2	9.6
	%	44.4	22.2	8.9	24.4		
I use the SMS as means of enhance adherence in my community pharmacy	f	15	12	17	1	2	9.4
	%	33.3	26.7	37.8	2.2		
I engage the Behavioral skill or medication adherence training in my community pharmacy.	f	15	5	3	22	3	12.2
	%	33.3	11.1	6.7	48.9		
Mean of weighted Average(MWA)							11

Table 6: Differentiated care in HIV/AIDS management practices Ranking among community pharmacists in Rivers State.

MWA= Mean of weighted average, Mdn= Median, SMS= Short message services WA= Weighted average.

Table 7 presents the effect of demographic characteristic of community pharmacists on the involvement in the differentiated care services in HIV/AIDS management. The

computed results show that the involvement of community pharmacists is significantly affected by only the age community pharmacists respondents ($x^2 = 27, p = 0.002$).

Variable	Category n=45	Involvement in HIV/AIDS patient devolvemtprogramme. n(%)	x2 (df)	p-value
Age	30-39	11(25.6)	27	0.002*
	40-49	6(14.0)		
	50-59	18(41.9)		
	60 and above	8(18.6)		

*Test of significant at $p < 0.05$

Table 7: Effects of demographic character on community pharmacists involvement in HIV/AIDS patient devolvemt to community pharmacy programme

Table 8 presents the effect of demographic characteristics on the community pharmacists perception and attitude towards differentiated care services. The computed results show that differentiated care services is affected by

respondents Age ($x^2 = 6, p = 0.002$), Qualification ($x^2 = 18, p = 0.001$), Years of practice experience ($x^2 = 12, p = 0.000$) and Gender ($x^2 = 1, p = 0.000$).

Variable	Category n=45	Differentiated care will encourage collaboration between community pharmacies and health system n (%)	x2 (df)	P-value
AGE	30-39	11	6	0.002*
	40-49	7(15.6)		
	50-59	19(42.2)		
	60 and above	8(17.8)		
Qualification	B. Pharm	19(43.2)	18	0.001*
	M.SC/M.Phi	21(47.7)		
	PhD	4(9.1)		
Year of practice	5-Oct	5(11.4)	12	0.000*
	Nov-15	3(6.8)		
	16-20	2(4.5)		
	21-25	19(43.2)		
	26-30	4(9.1)		
	Above 30	10(22.7)		
Variable	Category	Differentiated care will increase the income of community pharmacists		
Gender	Female	16(35.5)	1	0.000*
	Male	29(64.4)		

Table 8: Effects of demographic character the perception and attitude of community pharmacists differentiated care services.

Table 9 presents the effect of demographic characteristics on the community pharmacists knowledge about differentiated care services. The computed results

show that knowledge of differentiated care services is significantly affect by respondents Gender ($x^2 = 2, p = 0.004$), Qualification ($x^2 = 18, p = 0.001$) and Age ($x^2 = 3, p = 0.001$).

Variable	Category (n=45)	MTM reduce costs through more rational medication usage and reduced needs for medical services n(%)	x2 (df)	P-value
Gender	Female	16(35.5)	2	0.004*
	Male	29(64.4)		
Qualification	B. Pharm	19(43.2)	18	0.001*
	M.SC/M.Phi	21(47.7)		
	PhD	4(9.1)		
Variable	Category	Differentiated care will increase the income of community pharmacists		
Gender	Female	16(35.5)	1	0.000*
	Male	29(64.4)		
Age	30-39	11(24.4)	3	0.001*
	40-49	7(15.6)		
	50-59	19(42.2)		
	60 and above	8(17.8)		

Table 9: Effect of demographic character on the knowledge of community pharmacists about differentiated care services.

Table 10 presents the effect of demographic characteristics on the differentiated care practices of community pharmacists. The computed results show that

the respondents differentiated care practices is significantly affected by Gender($x^2 = 2$, $p = 0.000$) and Age ($x^2 = 6$, $p = 0.001$).

Variable	Category n=45	I carry out HIV/AIDS Screening as risk reduction strategy in my community pharmacy n (%)	x2 (df)	P-value
Gender	Female	16(35.5)	2	0.000*
	Male	29(64.4)		
I use the SMS as means of enhance adherence in my community pharmacy				
Gender	Female	16(35.5)	2	0.003*
	Male	29(64.4)		
Age	30-39	11(24.4)	6	0.001*
	40-49	7(15.6)		
	50-59	19(42.2)		
	60 and above	8(17.8)		

*Test of significant at $p < 0.05$

Table 10: Effect of demographic character on the differentiated care practices of community pharmacists in HIV/AIDS management.

Discussion

Community pharmacists are relevant care givers in the health care team. The cohort study shows male to be in majority because the respondents were selected from identified participants of the patients' devolvement to community pharmacies program. The quest for knowledge provided leverage to educational advancement that showed up as the survey of the study revealed. Majority of the pharmacists possesses the second degree as highest

educational qualification with years of practice experience of 5-10 years. This is a reflection on the need for adequate knowledge that will translate into competences. The high level of practice experience had enough passion to render HIV care services enhanced by opportunity to fill service gaps and design to ensure additional practice status that will provide reimbursement. The study revealed that majority of pharmacists possessed second degree as highest educational qualification an indication of their quest for knowledge.

Community Pharmacists' Involvement in HIV/AIDS Management

The study reveals that the initiation of the patient devolvement to community pharmacies was not adequately followed up with sustained recruitment of community pharmacies to sustain the scheme which is reflected by the number of pharmacists involved in the scheme in the past 5 years. The scheme will be sustained by continuous recruitment and encouragement from partnership organization. It is also indicative that some of the pharmacists that started the scheme also drop out because of lack of expected incentives.

Dapar MLP, et al. [6] reported that quality of service rendered is a reflection of the level of academic qualification. In their opinion, continuous learning is essential for the development of competencies. In the differentiated care there will be provision of modalities for stigmatization and discrimination reduction, addressing the barriers to the uptake of oral preexposure prophylaxis (PrEp) which was also reported by Nishimoto L, et al. [10].

The cohort study shows that community pharmacists in the patient devolvement program relatively have higher educational qualifications. This is a strong indication that competences will increase and they will offer better services that will translate to patients' retention.

Perception and Attitude of Community Pharmacists towards Differentiated Care

Perception and attitude of community pharmacists about differentiated care in HIV/AIDS management is represented by the statement employed in the study. The study shows that respondents show positive disposition. This agrees with the report of Mgbahurike AA, et al. [11]. In their opinion, competences acquired through sufficient knowledge commonly affect decision-making through perspective and attitude that drives performance of actions and specific task to define level of proficiency.

Knowledge of Community Pharmacists about Differentiated Care Indicates Strong and High by Community Pharmacists

The study shows that respondents exhibited good knowledge of Differentiated care in HIV/AIDS management. The respondents recorded high percentage of strongly agree in the items employed to measure knowledge. This high knowledge could be attributed to community pharmacist strong pursuit of the required competences. This is in conformity with the report of Ajagu N, et al. [1] while that of Gupta A, et al. [12] reported community pharmacists lack of knowledge. Involvement of community pharmacists in

the differentiated care services of HIV/AIDS management. Community pharmacists show participatory involvement in the differentiated care services. The patients' devolvement to community pharmacies offers excellent distribution sites for the care needed by people living with HIV/AIDS. Not only that the stigmatization was eliminated by the community pharmacists-based differentiated services, there are high daily activities in care enhancing optimally utilization of differentiated care services offered by community pharmacists. This agrees with the reports by Mgbahurike AA, et al. [11]. Moreover, Dowling-McClay KL, et al. [13] opined that community pharmacists offered stipulated services beyond services that reduce the risky behaviour and transmission preventions. This study also showcased community pharmacists regular contacts with patients with the high responses to the items employed for the measurement of engagement of Behavioural skill in medication adherence practices which was also reported by Nishimoto L, et al. [10] and Milosavljevic A, et al. [14] applauded the provision of comprehensive package of services of Differentiated care as revealed in this study. The person-centered holistic HIV prevention services that address broad range of services of the need of people living with AIDS.

These services of HIV screening testing, sexually transmitting infections, oral preexposure prophylaxis use of as risky behavior reduction activities by community pharmacies, calls for attention of policy formulators to ensure formulation of policy that will promote HIV/AIDS screening in community pharmacies and provide tools to enhance services that will engage community pharmacists in Behavioural skill training activities and the use of telephones to enhance adherence optimization. Moreover, Koester KA, et al. [15] complimented community pharmacists for activities that improve the uptake and retention of patients in HIV/AIDS care that decongest public health facilities through the Differentiated care services of patients' devolvement from public facilities to community pharmacies.

In this study, it is shown that the perception and attitude of community pharmacists is significantly affected by Age, Educational qualification, year of practice and Gender. This of course is expected because competence is acquired through sufficient decision-making skill that enables performance. This is in agreement with the report of Koester KA, et al. [15].

Ranking of Services

The services surveyed show that the testing for health status which is a key strategy for HIV management and the study agrees with the report of Grimsrud A, et al. [9] ranked highest in the differentiated care services for the management of HIV. The Behavioural counselling enables pharmacists to presents life style modification that enable adherence which

is enhanced by adherence monitoring procedures of the use of telephone and SMS as reminder tools.

Conclusion

Community Pharmacists' based differentiated care has served as innovative outreach to people living with HIV/AIDS through the use of potent antiretroviral initiated to reduce morbidity and mortality. This reduces the burden of treatment visits, cost and sustain treatment outcomes tailored to the needs of various group of people living HIV/AIDS.

Conflict of Interest

None was declared.

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Not applicable

Ethics Statement

Full ethical approval was obtained from the Ethical Committee of University of Port Harcourt, Rivers State UPH/CEREMAD/REC/MM90/053 of 10th August, 2023.

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