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Factors Influencing Provision of Antenatal Care to HIV Exposed Pregnant Women in Health Care Facilities in Ondo State

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Abstract

Human Immunodeficiency Virus (HIV) remains a public health issue as it's a leading cause of death worldwide among women of reproductive age. In order to improve health outcome, individual and family related factors must be addressed. The study identified factors influencing the provision of antenatal care services to pregnant women living with HIV in Ondo state A pretested questionnaire was used to elicit responses from 135 HIV exposed pregnant women using a multi-stage sampling technique and in-depth interview for 8 midwives in Ondo state. Results showed that long waiting time (94.8%, mean 4.5±0.7), far distance from health care (63.7%, 3.6±0.7) facility, cost of drugs (74.8%, 3.8±0.9) non-understanding of test results are barriers to the use of ANC services, few numbers of midwives (97% mean 4.6±0.7). There was a statistically significant relationship between number of midwives attending to pregnant women resulting into long waiting time and quality of ANC services with $p<0.05$ at 95% CI. Self-stigmatization by pregnant women living with HIV is a major factor as they presume everyone is aware of their status despite high level of confidentiality. It is recommended that more midwives should be employed into the health sector and psychologists should join in counseling against self-stigmatization

Keywords: Antenatal care, Factors, HIV women, Pregnant women

1.0 Introduction

Pregnancy-related HIV infection is now the main cause of death in women of reproductive age (WHO, 2022). Globally, the female gender remains vulnerable, with a relative HIV predominance of 54% (WHO, 2022), In Sub-Saharan Africa (SSA), women have a significantly higher prevalence of HIV infection, accounting for 60% of all HIV infection (UNAIDS, 2022). According to Joint United Nations Programmes on HIV/AIDS (UNAIDS), Nigeria is home to 24% of all pregnant women with HIV in the world. In Ondo State, there are 81,481 people infected with the deadly virus, 10,000 persons are on treatment including 2783 pregnant women and 5,439 persons for new HIV infections (NACA, 2015). The leading cause of death globally among women of reproductive age is HIV, which is still a major cause of death worldwide. Nigeria, there were 1.7 million HIV-positive persons in 2020 (UNAIDS, 2022). Women, who accounted for 960,000 people, were the most affected.

United States Agency for International Development (USAIDS) set the goal for reducing maternal mortality for pregnant women living with HIV, to achieve the desired impacts of ANC services, well-functioning health system is required, which includes excellent antenatal care service delivery, availability of HIV commodities, experienced healthcare providers, and sufficient finance in order to prevent mother to child transmission of HIV, in pregnancy (Kram *et al*., 2021). Stigma and Discrimination by midwives, family members, and other non-reactive pregnant women, have frustrated most HIV pregnant women from ANC; consequently, result into failure to disclose HIV status to the partners for fear of social discrimination and abandonment by male partner (Seyoum, 2022)

Stigma and Discrimination by midwives, family members, and other non-reactive pregnant women, have frustrated most HIV pregnant women from ANC; consequently, result into failure to disclose HIV status to the partners for fear of social discrimination and abandonment by male partner (Seyoum, 2022). Apart from these, poor quality of the services provided as a result of lack of infrastructure, shortage of manpower, inaccessibility to midwives, poor drug storage, unavailability of drugs encourages women to default from ANC since services are not reliable. Most Health workers approach molests and defies client morale which results into depression. However, poor educational status of women affects the way they seek for care (Zebideru *et al*, 2019)

Midwives have been shown to be effective at identifying pregnant women early in their pregnancy and increasing antenatal care service utilization, increasing attendance at all antenatal care visits prior to delivery, ensuring that pregnant women living with HIV have all the information they need to prevent HIV transmission to their infant and antenatal care is an important platform for achieving this goal (MacKay *et al*., 2020)

2.0 Materials and Methods

2.1 Study Setting

The study areas were the selected health care facilities across the 3 levels of Health Care, rendering antenatal care services for pregnant women living with HIV in Ondo state, Nigeria. Ondo State is significant oil and gas producing state in Nigeria's southwestern regi on. It was founded on September 3, 1976, from the then-Western region. Akure is the state capital. Ondo has a land area of 15,000 square kilometers and borders Ekiti State to the north, Kogi State to the northeast, Edo State to the east, Delta State to the southeast, Ogun State to the southwest, Osun State to the northwest, and the Atlantic Ocean to the south. Yoruba are the majority ethnic group in Ondo State, with subgroups of the Akoko, Akure, Ikale, Ilaje, Ondo, and Owo peoples. The state's coastal areas also have a small Ijaw (Apoi, Furupagha, and Arogbo) population. Ondo state has a

significant Christian majority, with the rest being Muslims and a small number of traditional worshippers. The population of Ondo State stands at 2006-with 1,745.057 males and 1,715,820 females (NPC, 2006).

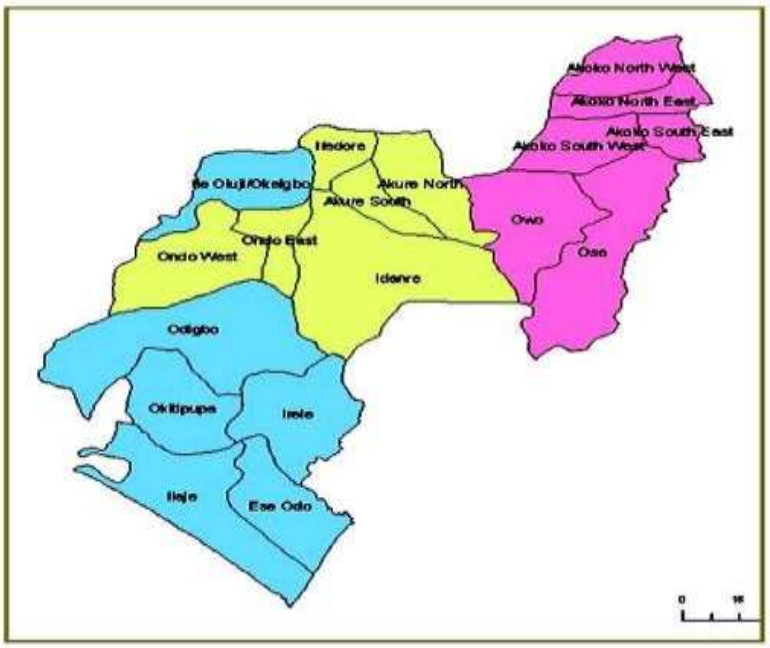

Fig 1. Research Design

This study adopted a convergent mixed method design. Both quantitative and qualitative data was collected concurrently using an in-depth interview method in exploring midwives' views on factors influencing provision of quality antenatal services across the three levels of care in Ondo State.

2.2 Study Population, Eligibility Criteria, Sample Size, and Sampling Method

2.2.1 Study Population

The study population comprised of pregnant women living with HIV attending ANC, Midwives to whom quantitative and qualitative data were collected from respectively.

2.2.2 Inclusion Criteria

Quantitative

Participants were eligible if they are;

i. HIV positive
ii. Pregnant
iii. Attend antenatal care at the selected health facilities
iv. Give consent

Qualitative

Midwives

i. must be providing ANC to HIV positive pregnant,
ii. must have spent at least six months in the selected health care facility, in Ondo state
iii. must be willing to participate in interview

2.2.3 Exclusion Criteria

Quantitative

Participants were excluded if;
I. No concurrent HIV infection with pregnancy
II. who declined to participate in the study,
III. Who needed immediate or emergency medical attention.

Qualitative

Midwives
I. not working in ANC clinics of the selected health care facilities
II. who declined to participate in the study
III. who were away from work at the time of data collection

2.2.4 Sample Size Determination

Quantitative Study

n= $N/(1 + Ne2)$
Where n = Number of samples,
N = Total population 200
e = Error tolerance and
3 = adjusted constant.
n= 200/ (1+200x.0.05^2)
n= 200/ (1+0.5)
n= 133
However to cater for non-response, rate of 10% was added.

$$= \frac{\text{Initial sample rate } \times \text{attriton rate}(10)}{Attrition\ \ Rate(10) - 1}$$

$$= \frac{\text{I}133 \times 10}{(10)-1} = 147.7 \qquad \text{Approximately}148$$

A total of 148 questionnaires were distributed, 135 were returned (91.2% response rate)

2.2.5 Sampling Technique

Multi-stage sampling technique was adopted in selection of samples for the study.

Stage one: Ondo state was stratified into 3 senatorial districts namely, Ondo North, Ondo South, Ondo Central

Stage two: One Primary health care facility and one Secondary health care facility providing Antenatal care for HIV positive pregnant women were selected purposively from each senatorial district (Not all health care facilities in Ondo State provide ANC services to HIV positive pregnant women). There are only two Tertiary Health care facilities (2) in Ondo state, which `were purposively selected from Ondo North and Ondo Central senatorial districts.

Stage three: Probability proportional to size was used to calculate the number of samples from each selected health care facility

Stage four: Convenience sampling technique was used to select respondents who met the inclusion criteria and accepted to participate in the study.

3.0 Results

3.1 Quantitative Results

3.1.1 Socio-Demographic Characteristics of Pregnant Women Living with HIV

Tabe 1 presents the socio-demographic data of respondents. Out of one hundred and thirty-five pregnant women living with HIV recruited for this study, majority (56.3%) were aged 30 year and above with Primary health care facilities (53.8 %), Secondary Facility (60.9%) with the mean age 32.0±5.0 years. 44.4% completed secondary education in all, with 34.6% respondents from Primary, 46% from Secondary and 50% from Tertiary Health Care Facilities had Secondary education and 42.2% completed tertiary education, 40.7% of the respondents were self-employed, with (53.8%) from Primary (36.8%) Secondary, (40.9%) Tertiary.32.6% earned between 30,000 to 50,000 naira monthly and 63% were Christians; (84.6%) Primary, (56.3%) Secondary, (63.6%) Tertiary In addition, only 38.5% of the respondents claimed to have visited health facilities for ANC services 4 times and above, with (50%) Primary, (34.5%) Secondary (40.9%) Tertiary and more than half (57.0%) had been pregnant for 26 weeks and above, and majority (64.4%) of the respondents received care at Secondary Health Facilities. (Table 1)

3.2 Qualitative Results

As shown in Table 2, the qualitative component of the study used in-depth interview for data collection, eight (8) midwives were interviewed to elicit the services available in their centre for HIV positive e pregnant women out of the facilities used, only two (FMC, Owo and UNIMEDTH) were Tertiary health care facilities owned by Federal and State government respectively. Others owned by State government were three (3) Secondary Health care facilities and three (3) Primary Health Care facilities. The midwives were between the age of 34 and 48 years. Majority of the participants were double qualified (RN and RM) and were degree holders in Nursing. All of them were senior staff ranging from Senior Nursing Officer to Chief Nursing Officers. While only 2 (25%) of the participants had less than ten (10) years of work experience, about 75% of them have had experience of more than a decade

3.3 Distribution of Respondents by Barriers to the Use of ANC Services

Regarding barriers to the of ANC services by respondents, majority 131 (97.0%) agreed that there were few midwives to attend to pregnant women resulting to long waiting time, 128 (94.8%) noted that long waiting time stopped them from coming for ANC, 101 (74.8%) claimed that cost of drugs discouraged them most time, 101 (74.8%) did the not understand some the test results, 86 (63.7%) complained of the distance to healthcare facility was too far and 60 (44.4%) of the respondents claimed that they would be abandoned if their husbands know their status (Table 3). However, majority 129 (95.6%) disagreed that religion does not permit ANC and 124 (91.9%) felt some midwives avoided attending to them as a result of their HIV status. Table 3 result revealed that, there is a no significant relationship between waiting time and number of ANC visits [p=0.691]. Result showed statistically significant relationship between number of midwives attending to

pregnant women resulting into long waiting time and quality of ANC services with $p<0.05$ at 95% CI (Table 2). There were no statistically significant association between waiting time [$\chi^2=0.158$; $p=0.691$], household income [$\chi^2=6.2694$; $p=0.099$] and number of ANC visits.

Table 1: Socio-demographic Characteristics of Clients

	Health facility					
	Primary n=26 (%)	Secondary n = 87 (%)	Tertiary n = 22 (%)	Total N=135 (%)	χ^2	p-value
Age group						
20 – 29	11 (42.3)	27 (31)	10 (45.5)	48 (35.6)		
30 – 39	14 (53.8)	53 (60.9)	9 (40.9)	76 (56.3)	4.128	0.389
40 – 49	1 (3.8)	7 (8.0)	3 (13.6)	11 (8.1)		
(Mean±SD)	***31.0±4.6***	***32.7±4.8***	***30.7±5.9***	***32.0±5.0***		
Marital status						
Single	0 (0.0)	3 (3.4)	2 (9.1)	5 (3.7)	4.487	0.611
Married	26 (100.0)	84 (96.6)	20 (90.9)	130 (96.3)		
Level of education						
No formal education	5 (19.2)	2 (2.3)	1 (4.5)	8 (5.9)		
Primary	2 (7.7)	4 (4.6)	4 (18.2)	10 (7.4)	16.658	0.011*
Secondary	9 (34.6)	40 (46.0)	11 (50.0)	60 (44.4)		
Tertiary	10 (38.5)	41 (47.1)	6 (27.3)	57 (42.2)		
Occupation						
Full housewife	2 (7.7)	13 (14.9)	9 (40.9)	24 (17.8)		
Civil servant	10 (38.5)	21 (24.1)	3 (13.6)	34 (25.2)	22.339	0.001*
Private	0 (0.0)	21 (24.1)	1 (4.5)	22 (16.3)		
Self employed	14 (53.8)	32 (36.8)	9 (40.9)	55 (40.7)		
Religion						
Christianity	22 (84.6)	49 (56.3)	14 (63.6)	85 (63)		
Islam	4 (15.4)	34 (39.1)	8 (36.4)	46 (34.1)	8.093	0.088
Traditional	0 (0.0)	4 (4.6)	0 (0.0)	4 (3.0)		
Number ANC visits						
Less than 4 times	13 (50.0)	57 (65.5)	13 (59.1)	83 (61.5)	2.098	0.350
4 times and above	13 (50.0)	30 (34.5)	9 (40.9)	52 (38.5)		
(Mean±SD)	***3.3±1.5***	***3.3±1.3***	***3.3±1.5***	***3.3±1.4***		
Gestational period (in weeks)						
Less than 26 w eeks	8 (30.8)	40 (46.0)	10 (45.5)	58 (43)	1.956	0.376
26 weeks and above	18 (69.2)	47 (54.0)	12 (54.5)	77 (57)		
(Mean±SD)	***27.3±4.6***	***25.8±5.6***	***27.8±5.7***	***26.4±5.5***		
Household income (in naira)						
Less than 30,000	9 (34.6)	15 (17.2)	11 (50.0)	35 (25.9)		
30,000 – 50,000	9 (34.6)	29 (33.3)	6 (27.3)	44 (32.6)	13.803	0.032
51,000 – 99,000	2 (7.7)	19 (21.8)	1 (4.5)	22 (16.3)		
100,000 and above	6 (23.1)	24 (27.6)	4 (18.2)	34 (25.2)		
Waiting time in ANC						
< 60 mins	11 (42.3)	41 (47.1)	10 (45.5)	62 (45.9)	0.189	0.910
≥ 60 mins	15 (57.7)	46 (52.9)	12 (54.5)	73 (54.1)		
(Mean±SD)	***75.4±35.8***	***57.6±13.3***	***58.9±19.6***	***61.2±21.5***		

Table 2: Socio-demographic Characteristics Respondents (Midwives)

Centre	Facility	Age (year)	Expertise	Cadre	Work experience	Code
FMC Owo	Tertiary	45	RN, RM, BNSc	ACNO	16	P1ON
General Hospital, Owo	Secondary	46	RM, RN, BNSc	ACNO	15	P2ON
BHC Isapen	Primary	41	RN, RM	PNO	9	P3ON
General Hospital, Okiti-pupa	Secondary	47	RN, RM, BNSc	ACNO	14	P1OS
PHC Irele	Primary	48	RN, RM, BNSc	CNO	20	P2OS
UNIMEDTH	Tertiary	34	RN, RM, RPHN BNSc	PNO	11	P1OC
MCH Akure	Secondary	45	RN, RM, BNSc	CNO	15	P2OC
PHC Arakale	Primary	35	RN, RM, BNSc	SNO	9	P3OC

FMC-federal medical centre, GH-general hospital, MCH-mother and child hospital, PHC-primary health centre, BHC-basic health centre, SNO-senior nursing officer, PNO-principal nursing officer, ACNO-assistant chief nursing officer, CNO-chief nursing officer, P1,2,3-participant 1,2,3, ON-Ondo north, OS-Ondo south and OC-Ondo central.

Table 3: Barriers to the Use of ANC Services

Barriers to use of ANC	Yes (%)	No (%)	Mean±SD
Few midwives	131 (97.0)	4 (2.9)	4.6±0.7
Long waiting time	128 (94.8)	7 (5.1)	4.5±0.7
Cost of drugs	101 (74.8)	34 (25.2)	3.8±0.9
Poor test results explanation	101 (74.8)	34 (25.2)	3.8±0.7
Distance to health care facility is too far	86 (63.7)	49 (36.3)	3.6±0.7
Husband's abandonment	60 (44.4)	75 (55.6)	3.1±0.9
Midwives' Stigma	11 (8.1)	124 (91.9)	1.8±0.9

Table 4: Summaries of the Categories and Themes Identified in the Study

Categories	Themes
Factors influencing antenatal services	1 Stigmatization
	1. Religious beliefs
	2 Self- stigmatization

Descriptively, 40.3% of the respondents who waited for less than 60 minutes at the healthcare facilities for ANC services uptake had more than 3 times visited the facilities compared to 36.9% who waited for 60 minutes and above. In addition, more than half (55.9%) of the respondents who earned ₦100,000 naira and above had more than 3 times visited the healthcare facilities for ANC services uptake compared to 37.1% earning less than 30,000 naira, 29.6% earning between ₦30,000 to ₦50,000 naira and 31.8% earning between ₦51,000 to ₦99,000 naira (Table 1)

The qualitative component of the study used in-depth interview for data collection, eight (8) midwives were interviewed to elicit the services available in their health care centers for HIV positive e pregnant women out of the facilities used, only two (FMC, Owo and UNIMEDTH) were Tertiary health care facilities owned by Federal and State government respectively. Others owned by State government were three (3) Secondary Health care facilities and three (3) Primary Health Care facilities. The midwives were between the age of 34 and 48 years. Majority of the participants were double qualified (RN and RM) and were degree holders in Nursing (Table 2). All of them were senior staff ranging from Senior Nursing Officer to Chief Nursing Officers. While only 2 (25%) of the participants had less than ten (10) years of work experience, about 75% of them have had experience of more than a decade.

3.4 Distance to the Facility/ Waiting Time/ Lack of Funds

Generally, lack of education about the disease condition/process, finance, time, and non-compliance with prescriptions as they want to do things in accordance with their culture and tradition. Some come to clinic at their convenience with tendency to abscond, relocate to other health care facilities so that their status would not be disclosed. Speaking from experience, a chief nursing officer from one of the facilities used has these to say:

"The challenges being faced is the distance to the facility, finance to transport them here, waiting time to see the doctor and midwives? Most of them complained that their boss does not give them time to come for ANC and time spent here is lengthened, they have to stay for long" (P3ON).

3.5 Stigmatization

Majority of midwives claimed that HIV positive pregnant women are not stigmatized

"Some feel stigmatized and stopped coming to clinic when their ANC was separated from others thought has been reverted to the routine ANC" (P2OS).

"Despite all the care provided, we don't stigmatize them but they feel reluctant to come for clinic. Most times, they sound harsh with care giver, don't disclose their status, they come on regular basis" (P1OC)

3.6 Religious Beliefs

Majority of midwives claimed that individual religious beliefs of HIV positive pregnant women, affect their attitude and acceptance of the new status.

"Some believe in miracles; go to mountains, fasting and prayers where their pastors usually tell them that regular medication is not their portion, leading to non-compliance" (P2OS).

"Some don't believe HIV is real…they believe it was inflicted on them via dreams. Even, I have like 7 of them who believed it was a spiritual problem" (P3ON).

3.7 Self Stigmatization

The assumption that other clients in the clinic know their status breeds arrogance, default from clinic, low self-esteem, a midwife said:

"They don't pay for anything but some of them believe others know their status whereas nobody knows. That is why we invite the psychologist" (P3ON).

"Despite all the care provided, we don't stigmatize them but they feel reluctant to come for clinic. Most times, they sound harsh with care giver, don't disclose their status, they come on regular basis" (P1OC)

4.0 Discussion

The study identified factors affecting the provision of antenatal care services to HIV exposed pregnant women in Ondo state using a mixed method design. The studies observed a statistically significant relationship between numbers of midwives attending to pregnant women and prolong waiting time. Findings from the study further showed that most respondents agreed that long waiting time cost of drugs, inadequate numbers of midwives, and distance from home to health care facility and failure to explain test results by health workers serve as barriers to the use of ANC services. According to respondents, self-stigmatization by pregnant women living with HIV serves as a major factor as the client presume everyone is aware of their status despite high level of confidentiality and this corroborate findings by Sui *et al.* (2021).

More so, findings from the study show no evidence that respondents were stigmatized by midwives, had emotional support and this is in contrast with the findings of Mathews *et al*. (2020) Cost of drugs, far distance from health care facility are parts of barriers to the use of ANC services and it confirmed some of the midwives responses that routine drugs are to be procured by the pregnant women which corroborates Mutch *et al*. (2022) Waiting time has no significant influence on` antenatal visits by HIV positive pregnant women but there is statistically significant relationship between number of midwives attending to pregnant women resulting too long waiting time. This implies that long waiting time will lead to poor antenatal care and discourage HIV positive pregnant women from attending ANC clinic. This finding corroborates the findings of Steenland *et al*. (2019).

5.0 Clinical Implications of the Study

Identification of factors that affect provision of antenatal care services, highlights critical gaps in service delivery, addressing these gaps can enhance efficiency and patient care experience.

6.0 Ethical Approval

Ethical approval was collected from;

i. Ministry of Health, Ondo state (OSHREC 1511/22486)
ii. Federal Medical Centre, Owo (FMC/OW/380/VOL.CLXIV/160)
iii. UNIMED Akure (UNIMEDTHC/028/055); and
iv. Hospital Management Board (HMB) (G.8061/147), Ondo state.

7.0 Limitations of Study

A major limitation of this study is the sensitive nature of HIV status. Most participants were not willing to disclose information due to self-stigmatization. More so, the study was only conducted in Ondo state, findings may not be generalized to other regions of Nigeria

8.0 Conclusion

Evidence from this study showed that self-stigmatization is a subjective factor as a major barrier to the use of ANC services by HIV positive pregnant women, there were no statistically significant association between waiting time, household income and number of ANC visits. Also, the household income has no significant effect on number of antenatal visits

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