



Factors Influencing Repeat Pregnancies among Hiv-Positive Mothers in Ibadan, Nigeria

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Abstract: Introduction: HIV is a leading cause of morbidity and mortality among women of reproductive age worldwide, with significant implications for maternal and child health. This study focuses on the complex decision-making process around childbearing among HIV-positive women in Ibadan, Nigeria, where the HIV epidemic is a pressing concern.

Aim: The study aims to understand the factors influencing repeat pregnancies among HIV-positive mothers in Ibadan, Nigeria, and contribute to improved maternal and infant HIV-free survival.

Methods: Data was collected from 400 HIV-positive pregnant women attending an antenatal clinic. The study examined socio-demographic characteristics, sexual and reproductive history, knowledge of PMTCT, contraceptive knowledge and use, HIV diagnosis, and disclosure. Statistical analysis was conducted using SPSS.

Results: The study revealed a relatively young and diverse population, with high awareness of PMTCT and HIV transmission modes. Most participants were diagnosed with HIV before pregnancy, but some were diagnosed during pregnancy. While 39.0% desired more children, 61.0% did not due to concerns about HIV transmission. Discussions about future childbearing with spouses were reported by 46.0% of participants.

Conclusion: HIV-positive women in Ibadan, Nigeria, face a complex dilemma between their desire for more children and the fear of HIV transmission. A comprehensive approach that provides medical guidance, psychological support, and education while challenging societal stigmas is crucial. Empowering these women with information and support networks can help them make informed decisions while reducing the risk of HIV transmission.

Recommendations: Healthcare providers should offer comprehensive counseling and support to HIV-positive women to address their reproductive desires and concerns. There is a need for community-based interventions to challenge societal norms and reduce stigma around HIV and childbearing. Policymakers should prioritize the development and implementation of strategies that improve maternal and infant HIV-free survival.

Keywords: Repeat Pregnancies, HIV-positive mothers, Ibadan.

BACKGROUND

According to the WHO and UNAIDS, the Human Immunodeficiency Virus (HIV) is the world's top cause of death for women of reproductive age and has a major impact on maternal, newborn, and child morbidity and mortality. The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the United Nations Children's Fund (UNICEF) released the Universal Access Report in 2009, which estimates that 33.4 million people worldwide are HIV-positive, with 15.7 million of them being women and 2 million being children under the age of 15 (UNAIDS, WHO, UNICEF 2009). With 67.6% of all HIV cases, 69.2% of new infections, and 72.2% of related deaths in 2009, Sub-Saharan Africa carries the heaviest burden of the pandemic (FMH, 2010).

According to UNAIDS (2010), mother-to-child transmission (MTCT) accounts for over 95% of pediatric HIV transmissions and roughly 20% of all HIV infections. Due to high overall fertility rates and the prevalence of HIV among women of childbearing age in Sub-Saharan African nations, MTCT is particularly worrisome (UNAIDS, 2010; Grant et al., 2004). Maternal malnutrition, high viral loads, advanced HIV illness in mothers, and co-morbidity with STIs are all factors that raise the risk of MTCT (Decook et al., 2000; World Health Organization, 2006).

Without any kind of preventive action, developing-nation pregnant women run a 25–45% chance of passing HIV to their offspring (Decook et al., 2000; World Health Organization, 2006). HIV prevalence in Nigeria ranges from 1.0% to 10.6%, with rates exceeding 5% in 17 states. According to a 2011 fact sheet, 4.1% of the estimated 3.1 million Nigerians living with HIV were female. Nearly 80% of new infections in adults are transmitted heterosexually, with the remaining 20% being transmitted by MTCT and other means (FMOH, 2010). It is important to note that MTCT is the cause of almost 90% of HIV infections in children (UNAIDS, 2009).

Programs to prevent mother-to-child HIV transmission (PMTCT) are designed to lower the chance of this happening. These initiatives include antenatal HIV testing and counseling, preventing unwanted pregnancies, giving moms and newborns the proper antiretroviral medications and therapies, and promoting secure infant feeding practices. The extent and scope of PMTCT programs, however, are constrained in Sub-Saharan Africa (WHO, 2010).

This study focuses on understanding the factors influencing repeat pregnancies among HIV-positive mothers in Ibadan, Nigeria, addressing the complex decision-making process around childbearing among HIV-positive women and contributing to improved maternal and infant HIV-free survival.

The ongoing AIDS epidemic in Sub-Saharan Africa has resulted in a growing number of HIV-infected women of childbearing age (UNAIDS, 2006). Nigeria, with a total fertility rate of 5.6 (World Bank, 2010), has approximately 3.1 million people living with HIV, of which 4.1% are pregnant women (NACA, 2011). Despite advances in antiretroviral therapy and PMTCT services, many HIV-positive women grapple with the decision to have more children due to concerns about HIV transmission (Cooper et al., 2007; Awiti et al., 2010). Reproductive decision-making in this context is influenced by socio-cultural norms, family pressure, psychological factors, access to care, and healthcare provider attitudes (Gruskin et al., 2008; Williams et al., 1996; Craft et al., 2007).

The purpose of this study is to close the knowledge gap on the intentions of HIV-positive women in Ibadan, Nigeria, to have subsequent pregnancies. Its importance lies in its potential to educate medical professionals and decision-makers, which could ultimately result in better support for HIV-positive women's reproductive needs, lower financial burdens, better health policies, better national data documentation, counseling services, and more effective mother-to-child transmission prevention. Clare et al. (2007); Richter et al. (2002)

METHODS

Study area

The HARVARD PEPFAR/APIN PLUS program clinic at Ido Local Government Area in Ibadan, a primary health center, was where the study was conducted. One of the PEPFAR clinics, it provides

services for voluntary counseling and testing, preventing mother-to-child transmission, receiving antiretroviral therapy, and treating opportunistic infections.

Study population

400 HIV-positive pregnant women who attend the prenatal clinic at the Apete/Omi-Adio Maternity Health Center make up the study population for this investigation. Being HIV-positive and pregnant is a requirement for study participation, however HIV-positive non-pregnant women who visit the same clinic are excluded. The study is only open to participants who give their consent.

Sampling Procedure

A systematic sampling procedure was used to choose study participants. With roughly 1,500 clients in total, a kth interval of 4 was determined. The first responder was chosen through balloting to represent the second client who enters the building at the start of the data collection. The second and third respondents will be the sixth and tenth clients, respectively, using the kth interval. This procedure continued up until a sample size of 400 was attained.

Data Collection and Analysis

Data were collected using a semi-structured, interviewer-administered questionnaire that included both open-ended and close-ended questions. This questionnaire had several sections, including socio-demographic information, sexual and reproductive history, the respondents' attitudes toward repeat pregnancies, knowledge and attitudes regarding Prevention of Mother-to-Child Transmission (PMTCT), contraceptive knowledge and usage, HIV-related knowledge, diagnosis, and disclosure

A pilot research was carried out in the PEPFAR clinic in the University College Hospital Ibadan, a tertiary hospital in Oyo state, to confirm the reliability of the device. The reliability of the questionnaire was tested as part of this pilot project, and the analysis of the data it produced using Cronbach's alpha produced a reliability coefficient of 0.86. The instrument underwent content validation in addition to reliability testing, which involved a review of pertinent literature, alignment with the study objectives, and answering the research questions. It was then delivered to the researcher's supervisor for approval and revision.

The data collection procedure involved personally administering the questionnaires to the respondents, with the assistance of a trained research assistant selected from the researcher's colleagues. The HIV-positive pregnant women were approached during their antenatal clinic appointments, typically in the early morning, to obtain their responses. Data analysis was conducted electronically using Statistical Package for Social Sciences (SPSS) version 20, and the findings were presented through frequency and percentage (%) distributions as well as tables.

RESULTS

Table 1: Socio-demographic Variables of Respondents

Variable	Frequency	Percent
Age of last birth day (in years)		
21-30	204	51.0
31-40	176	44.0
41-50	20	5.0
Total	400	100.0
Marital status		
Single	24	6.0
Married	294	73.5
Separated	52	13.0
Divorced	30	7.5
Total	400	100.0
Family Type		

Monogamy	294	73.5
Polygamy	106	26.5
Total	400	100.0
Religion		
Christianity	192	48.0
Islam	188	47.0
Traditional	20	5.0
Total	400	100.0
Occupation		
civil servant	90	22.5
Business	144	37.0
self-employed	140	35.0
Student	12	3.0
Others	10	3.0
Total	400	100.0
Tribe		
Yoruba	192	48.0
Igbo	148	37.0
Hausa	60	15.0
Total	400	100.0
Yoruba	49	48.0
Level of Education		
Primary	40	10.0
Secondary	160	40.0
Tertiary	180	45.0
no formal education	20	5.0
Total	400	100.0

The data in table 1 above shows that among the 400 participants, the majority fell into the age group of 21-30 years (51.0%), followed by those aged 31-40 (44.0%), and a smaller percentage in the 41-50 age group (5.0%). The overall mean age was approximately 30.9 years, with a standard deviation of approximately 3.11 years.. In terms of marital status, a significant proportion were married (73.5%), while smaller percentages were single (6.0%), separated (13.0%), or divorced (7.5%). Regarding family type, the majority were in monogamous families (73.5%), with the rest in polygamous ones (26.5%). In terms of religion, Christianity and Islam were nearly equally represented, with 48.0% and 47.0%, respectively, while a small proportion practiced traditional religions (5.0%). Occupation-wise, the participants had varied backgrounds, with 22.5% being civil servants, 37.0% involved in business, 35.0% self-employed, and smaller percentages as students (3.0%) or in other occupations (3.0%). In terms of tribe, the data showed a diverse group, with 48.0% identifying as Yoruba, 37.0% as Igbo, and 15.0% as Hausa. Lastly, with regards to education levels, 45.0% had tertiary education, 40.0% had secondary education, 10.0% had primary education, and 5.0% had no formal education among the 400 participants.

Table 2. Sexual and reproductive history of Respondents

ITEM(S)	CATEGORIES	FREQ	%
How many children do you have	1	74	18.5
	2	122	30.5
	3	128	32.0
	4	24	6.0
	5	16	4.0
	6	8	2.0
	None	28	7.0
	Total	400	100.0

Are you pregnant?	yes	392	98.0
	no	8	2.0
	Total	400	100.0
If yes how many month?	2months	31	7.75
	3months	35	8.75
	4months	51	12.75
	5months	70	17.6
	6months	74	18.5
	7months	51	12.75
	8months	68	17.0
	9months	20	5.0
	Total	400	100.0
	At the time you become pregnant, did you want to become pregnant then?	Yes	172
no		228	57.0
Total		400	100.0
Have you lost any child due to HIV illness?	yes	35	8.75
	no	365	91.25
	Total	400	100.0

The data presented in the table above illustrates the family size of 400 participants, with the most common family sizes being two or three children, accounting for 30.5% and 32.0%, respectively. A smaller percentage had one child (18.5%), while even fewer had four (6.0%), five (4.0%), or six (2.0%) children. Additionally, 7.0% of participants reported having no children. Regarding pregnancy status, an overwhelming majority of participants (98.0%) indicated that they were pregnant, while a very small proportion (2.0%) reported not being pregnant. For pregnant participants, the data also includes the duration of their pregnancies, with varying percentages at different stages, such as 7.75% at two months, 8.75% at three months, 12.75% at both four and seven months, 17.6% at five months, 18.5% at six months, 17.0% at eight months, and 5.0% at nine months. In terms of the intentionality of their pregnancies, participants were almost equally split, with 43.0% expressing that they wanted to become pregnant at the time, while 57.0% did not. Additionally, regarding child loss due to HIV illness, a small percentage of participants (8.75%) reported experiencing such a loss, while the majority (91.25%) had not encountered this circumstance.

Table 3. PMTCT knowledge and practice.

ITEM(S)	CATEGORIES	FREQ	%
Have you ever heard of prevention of mother to child [PMTCT]?	yes	392	98.0
	no	8	2.0
	Total	400	100.0
If yes, what is/are your source[s] of information?	yes	388	97.0
	no	12	3.0
	Total	400	100.0
If yes how many month?	friends	28	7.0
	newspaper	31	7.75
	TV	39	9.75
	radio	20	5.0
	health worker/health centres	282	70.5
	Total	400	100.0
At the time you become pregnant, did you want to become pregnant then?	yes	172	43.0
	no	228	57.0
	Total	400	100.0
Can HIV be transmitted from mother to her baby?	Yes	392	98.0

	no	8	2.0
	Total	400	100.0
If yes in what way?	during pregnancy	8	2.0
	during delivery	146	36.5
	during breastfeeding	128	32
	all of the above	118	29.5
	Total	400	100.0
Are you on ARV?	yes	352	88.0
	no	48	12.0
	Total	400	100.0
If yes approximately how long have been taking ARVs Are you on ARV?	Years	88	22.0
	months	312	78.0
	Total	400	100.0

The data table 3 provided contains information from 400 participants, encompassing their awareness of Prevention of Mother to Child Transmission (PMTCT) and its sources of information, their pregnancy intentions, knowledge about HIV transmission from mother to baby, Antiretroviral Therapy (ARV) usage, and the duration of ARV treatment. The majority of participants (98.0%) were aware of PMTCT, with health workers and health centers being the most common sources of information (70.5%). Participants also demonstrated awareness of HIV transmission from mother to baby (98.0%), with common modes including during delivery (36.5%) and breastfeeding (32.0%). Pregnancy intentions were divided, with 43.0% wanting to become pregnant at the time. Additionally, the majority of participants (88.0%) reported being on ARV treatment, with 78.0% taking ARVs for months.

Table 4. Contraceptive Knowledge and use

ITEM(S)	CATEGORIES	FREQ	%
Are you aware of any contraceptive methods?	yes	392	98.0
	no	8	2.0
	Total	400	100.0
Which of these contraceptive methods do you know?	male condom	153	38.25
	female condom	88	22.0
	pills	68	17.0
	implants	8	2.0
	injectables	52	13.0
	female sterilization	4	1.0
	withdrawal	28	7.0
	lactational amenorrhoea method	12	3.0
	Total	400	100.0
Have you ever used any method?	yes	356	89.0
	no	44	11.0
	Total	400	100.0
Which method did you use?	male condom	132	33
	female condom	16	4.0
	pills	44	11.0
	Injectables	104	26.0
	implants	36	9.0
	IUCD	40	10.0
	withdrawal	4	1.0
	Total	400	100.0

The data table above provided contains information from 400 participants regarding their awareness of contraceptive methods, knowledge of specific methods, usage of any contraceptive method, and

the specific methods they have used. The vast majority of participants (98.0%) were aware of contraceptive methods. Among those who were aware, they exhibited knowledge of various methods, with male condoms (38.25%), female condoms (22.0%), and pills (17.0%) being the most recognized. Additionally, a significant proportion (89.0%) of participants reported having used some form of contraception, with male condoms (33.0%), injectables (26.0%), and pills (11.0%) being among the commonly used methods. Other methods included implants (9.0%), intrauterine contraceptive devices (IUCD) (10.0%), and female condoms (4.0%).

Table 5. Diagnosis and Disclosure

ITEM(S)	CATEGORIES	FREQ	%
How do you think HIV is transmitted [tick yes or no for each]?	sexual intercourse [yes], [no]	247	61.75
	sharing sharp objects [yes] [no]	137	34.25
	witchcraft or other supernatural means [yes] [no]	8	2.0
	Total	400	100.0
When was the first time you ever tested positive?	<6 months	117	29.25
	6months-1year	164	41.0
	1year-and above	119	29.75
	Total	400	100.0
Was it before you become pregnant?	Yes	298	74.5
	no	102	25.5
	Total	400	100.0
Were you diagnosed as HIV -positive in this pregnancy?	yes	188	47.0
	no	212	53.0
	Total	400	100.0
How many pregnancies have you had after you were diagnosed with HIV?	one	282	70.5
	two	70	17.5
	none	48	12.0
	Total	400	100.0

In terms of HIV transmission perceptions, a significant majority (61.75%) correctly identified sexual intercourse as a mode of transmission, while 34.25% acknowledged sharing sharp objects, and a small proportion (2.0%) mentioned witchcraft or supernatural means. Regarding the timing of their initial HIV positive test results, participants reported a relatively even distribution, with 29.25% testing positive in less than six months, 41.0% between six months and one year, and 29.75% one year or more before the survey. Most participants (74.5%) were diagnosed with HIV before becoming pregnant, while 25.5% received their diagnosis during pregnancy. Furthermore, among those diagnosed during pregnancy, 47.0% reported having been diagnosed as HIV-positive during this specific pregnancy. While the majority (70.5%) reported having one subsequent pregnancy, 17.5% had two, and 12.0% had none.

Table 6. Pregnancy intentions

ITEM(S)	CATEGORIES	FREQ	%
Would you want to have more children after this?	Yes	156	39.0
	no	244	61.0
	Total	400	100.0
If YES, why do you desire more children?	I need a male	66	16.5
	I need living child	20	5.0
	I need female	32	8.0
	my husband wants another child	35	8.75
	Total	156	100.0
How many more children do you wish to have?	1	78	19.5
	2	58	14.5

	Total	156	100.0
If NO, why do you not want to have more children?	the child may be infected with HIV	122	30.5
	doc/health worker/nurses advice against it	52	13.0
	my husband has not been supportive	76	19.0
	Total	244	100.0
Have you discussed having more children in the future with your spouse?	yes	184	46.0
	no	216	54.0
	Total	400	100.0

Among the participants, 39.0% expressed a desire to have more children, with various reasons cited, including the need for a male child (16.5%), a living child (5.0%), a female child (8.0%), and their husband's desire for another child (8.75%). Of those who wanted more children, 19.5% wished to have one more child, while 14.5% desired two more children. Conversely, 61.0% of participants did not want more children, with reasons such as concerns about HIV transmission to the child (30.5%), medical advice against it (13.0%), and lack of support from their husbands (19.0%). Additionally, discussions about having more children in the future were reported by 46.0% of participants, while 54.0% had not discussed this with their spouses. (Table 6)

DISCUSSION

The mean age, approximately 30.9 years, points to a relatively youthful population. Marital status data reveals that 73.5% were married, reflecting the prevailing marital status. The majority lived in monogamous families (73.5%), and prominent religious affiliations were Christianity (48.0%) and Islam (47.0%). Occupational diversity was evident, with civil servants (22.5%), business professionals (37.0%), and self-employed individuals (35.0%) as major occupational groups. Ethnically, there was significant representation of the Yoruba (48.0%), aligning with Oladapo et al. 2005's findings. Educational levels varied, with 45.0% having tertiary education, 40.0% secondary education, 10.0% primary education, and 5.0% having no formal education. Regarding family size distribution, two or three children were the most common (30.5% and 32.0%, respectively), consistent with prior studies (Richter et al. 2002; Oladapo et al. 2005; Allen et al. 1993). A smaller percentage had one child (18.5%), while even fewer reported having four (6.0%), five (4.0%), or six (2.0%) children. Pregnancy status indicated that an overwhelming majority (98.0%) were pregnant, with varying pregnancy durations. Interestingly, 43.0% expressed an intention to become pregnant during the study, while 57.0% did not. A minority (8.75%) reported experiencing child loss due to HIV illness.

In terms of awareness and knowledge, our findings indicated a high level of awareness among participants, with 98.0% aware of PMTCT. Health workers and health centers served as the primary sources of information (70.5%). Participants also demonstrated strong awareness of HIV transmission from mother to baby (98.0%), particularly during delivery (36.5%) and breastfeeding (32.0%). Regarding perceptions of HIV transmission, the majority (61.75%) correctly identified sexual intercourse as a mode of transmission, while 34.25% acknowledged sharing sharp objects, in line with previous studies affirming sexual intercourse as a major mode of transmission (Morris et al. 2001; VanPeer 2000; Oladapo et al. 2005; Westoff 1990). Participants reported varied timings for their initial HIV positive test results. Approximately 29.25% tested positive in less than six months before the survey, 41.0% between six months and one year, and 29.75% one year or more prior to the study. Most participants (74.5%) were diagnosed with HIV before becoming pregnant, while 25.5% received their diagnosis during pregnancy. Of those diagnosed during pregnancy, 47.0% were identified as HIV-positive specifically during that pregnancy.

Fertility desires varied among participants. Notably, 39.0% expressed a desire to have more children, driven by diverse reasons such as the desire for a male child, a living child, a female child, or their husband's desire for another child. This may be influenced by Nigerian societal norms and the fear of

AIDS-related consequences. However, this contrasts with Oladapo et al. 2005's findings where 63% desired more children. Conversely, 61.0% of participants did not wish to expand their families, citing concerns such as potential HIV transmission to the child, medical advice against it, or lack of spousal support, aligning with previous studies highlighting concerns about HIV transmission affecting women's decisions (Cooper et al., 2007; Awiti et al., 2010). Communication about future childbearing was reported by 46.0% of participants, while 54.0% had not engaged in such discussions with their spouses, consistent with findings in the study by Enwereji and Enwereji 2010.

Conclusion and Recommendation

This study highlights a poignant dilemma faced by HIV-positive women in Nigeria: their desire for more children while grappling with the fear of transmitting the virus. Many wish to expand their families, driven by diverse motivations. Yet, the pervasive fear of HIV transmission during pregnancy, delivery, and breastfeeding looms large. Societal norms and the fear of AIDS-related consequences complicate these decisions.

To address this complex issue, a holistic approach is needed. It should provide medical guidance, psychological support, and education. Challenging societal stigmas and norms is crucial. Empowering these women with information and support networks can help them make informed decisions while reducing the risk of HIV transmission. Ultimately, respecting their autonomy and desires is essential in addressing this emotional tug-of-war between hope and fear.

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