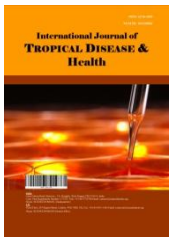

International Journal of TROPICAL DISEASE & Health

42(14): 8-16, 2021; Article no.IJTDH.74949
ISSN: 2278–1005, NLM ID: 101632866

Fertility Desires and Family Size Preferences of HIV Positive Women Accessing Care in the University of Port Harcourt Teaching Hospital

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Authors' contributions

Both authors were in collaboration in conducting this research. Author ABI designed the study, performed the data analysis and drafted the initial manuscript. Author MCA managed the analysis and interpretation of the findings. Both authors critically revised the manuscript, as well as read and approved the final manuscript.

Article Information

DOI: 10.9734/IJTDH/2021/v42i1430512
Editor(s):
(1) Dr. Giuseppe Murdaca, University of Genoa, Italy.
Reviewers:
(1) Smitha Parameswaran Namboothiri, Great Ormond Street Hospital for Children, United Kingdom.
(2) Amrita Datta, Christian Medical College, India.
Complete Peer review History: https://www.sdiarticle4.com/review-history/74949

Original Research Article

Received 20 July 2021
Accepted 30 September 2021
Published 05 October 2021

ABSTRACT

Introduction: Women living with HIV may or may not intend to bear children. They may also have different preferences in terms of family sizes. The desire of HIV positive women to bear children and their family size preferences has significant implication for horizontal and vertical transmission of this incurable disease. This study, therefore, aims to determine fertility preferences and their predictors among HIV positive women accessing care at UPTH, Port Harcourt, Rivers State.
Methods: The study was a descriptive cross-sectional study among 402 women within the reproductive age (15-49 years) who were on Antiretroviral Therapy (ART). Participants were recruited using systematic sampling method and were interviewed with an interviewer-administered questionnaire. A semi-structured, self-administered questionnaire was used to obtain participant's socio-demographic characteristics, desire for children, use, demand and choice of contraception and reproductive characteristics. With SPSS version 20, data was summarised as descriptive statistics and Chi-square test was used to test for association.

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Results: The study showed that 81.8% of respondents desire to have children out of which 96 (29.3%) desired one to two children, 169 (51.5%) desired three to four children, and 18 (5.5%) wanted five or more children. Factors such as age, marital status, and disclosure of Sero-status to partner were found to be associated with family size preferences ($p<0.05$).
Conclusion: HIV positive women in Port Harcourt have high fertility desires and moderate family sizes preferences; thus, indicating the need for more support and involvement of the government and relevant stake holders in ensuring better access to ART services in the country. More resources should be channelled towards provision of effective preventive medications and services, people who live with HIV (PLHIVs) should be continuously and adequately sensitised with the necessary knowledge on how to make healthy reproductive decisions, as well as on available practicable reproductive options for HIV-infected women should be made efficient, and easily accessible.

Keywords: Fertility desire; HIV; family size preferences; women; antiretroviral treatment; prevention of mother-child-transmission.

1. INTRODUCTION

HIV/AIDS has steadily remained a disease of Public Health concern. The disease has grave impact on virtually every facet of human endeavour including socio-economic as well as fertility of infected individuals. Fertility is a very important component of population change of any country; therefore, any disease affecting it will have serious effect on demographic transition and imminent age structure of the country [1].

The United Nations Programme on HIV/AIDS (UNAIDS) estimates that about 3.4 million individuals in Nigeria were living with HIV in 2014 and about 3.5 million in 2015 with women within the reproductive age constituting above 50% of this figure. Nigeria also accounted for 22% (51,000) of all new child HIV infection globally in 2013, with only about 12% of children who are born with HIV receiving antiretroviral treatment therapy [2]. According to the Rivers State-wide Rapid Health Facility Assessment in 2013, Rivers State with HIV prevalence of 6%, is one of the 13 states that contribute to 70% of Nigeria's Prevention of Mother-To-Child Transmission burden. ART improves to a significant extent the health conditions and the fertility of HIV positive people and reduces the risk of HIV transmission from mother-to-child from 25-45% to about 2% [3].

As major efforts and commitments to the expansion of accessibility to treatment in sub-Saharan Africa are undertaken, a lot of people on ARTare beginning to resume a socially productive and sexually active life with increasingdesire to bear children. In Africa generally, reproductive intentions of HIV positive women which are not different from those of their uninfected counterparts are affected by both community and cultural norms [4]. Apart from the general societal expectation of early marriage and childbearing for women, women living with HIV also want to exercise their rights to marry and bear children irrespective of the high risks that it poses to their health [5].

The consistent use of condom by HIV-infected persons is often propagated and promoted worldwide because condom serves a dual purpose of reducing the risk of transmission of HIV infections and preventing pregnancies among HIV-infected women [6] It is often advised that women living with HIV should avoid childbearing because of the risks of transmitting the infection to the unborn child and that it poses to their health; this concern for HIV-positive women, however, downplays their desire to have children, which have shown to be on the rise due to improved quality of life and survival following commencement of ART and tailor-made reproductive health services [7].

The fact that many HIV-positive adults desire and intend to have children in the future has significant consequences on the spread of HIV epidemic and the future demand of social services for children born to infected parents [8].

In very sharp contrast to the increased number of women living with HIV, and their recognized desires to have children, there are only very few studies undertaken to show the fertility preferences of such women. Thus, this research determines fertility preferences and their predictors among HIV positive women; this unambiguously provides information regarding fertility desires and family size preferences of HIV-positive women in Port Harcourt and

reinforces possible interventions to address the recognized need in a way that would not only protect the babies and the sexual partners of the women but also satisfy their childbearing desires. This research will, consequently, be useful to those designing healthcare interventions for the population group.

2. METHODOLOGY

2.1 Study Area

This study was carried out in the University of Port Harcourt Teaching Hospital (UPTH) in Port Harcourt City Local Government Area of Rivers State, Nigeria. Port Harcourt which is the headquarters of Rivers State is one of the most industrialized cities in Nigeria.

UPTH is the apex health institution in Port Harcourt and a major tertiary health institution in the Niger Delta Region of Nigeria. The hospital provides general and specialty services at the General out-patients department (GOPD), including different specialty out-patient clinics such as the ARV clinic.

The ARV clinic which is domiciled in the department of Internal Medicine started its operations in 2002. The clinic is managed by a multidisciplinary approach comprising of specialists from departments such as Internal Medicine, Pharmacy, Medical Records, HIV unit, Accident and Emergency, Laboratory, among others. It runs seven clinic days per week and an average of 120 patients are attended to in a day.

2.2 Research Design and Study Population

The study was a descriptive cross-sectional study using pretested interviewer-administered questionnaire. The study population were all HIV/AIDS infected women who had visited at least once, the ARV treatment unit of the University of Port Harcourt Teaching Hospital during the study period.

All women living with HIV within the reproductive age of 15-49 years, and who were receiving care in the HIV clinic of the study area were studied. Those who were too ill to participate in an interview and those who could not provide information themselves were excluded from this study.

2.3 Sample Size Determination

The sample size of 403 was determined using the formula for single proportion with assumed proportion of fertility desire of 50%, precision set at 0.05 and estimated non-response rate of 5%.

2.4 Sampling Technique

Systematic sampling was used to randomly select participants. The first respondents were randomly selected daily, thereafter every 4th person was interviewed. An average of 20 questionnaires were administered and completed daily until the required sample size was gotten.

2.5 Data Analysis

The data was analysed using the Statistical Package for Social Sciences (SPSS) version 20.0.Univariate analysis such as proportions, percentages, and frequency tables were used for describing data. Bivariate analysis using chi-square was used to test for association between some socio-demographic characteristics and family size preference as well as knowledge about PMTCT services.

2.6 Study Limitation

The cross-sectional nature of this study precludes the determination of causality and the ability to understand changing fertility desires, which are likely to change with duration of HIV and ART.

3. RESULTS

A total of 402 respondents participated in the study, giving a response rate of 99.7%. Women within the reproductive age (15-49 years) were interviewed. Majority of the study population were within the age group 20-39 years (77.86%).

Three hundred and fifty (87.07%) of the total respondents had at least a secondary education, 48 (11.94%) had attended primary school and 4 (1.00%) had no formal education.

One hundred and sixty-nine participants were single (42.04%), 163 (40.55%) were married, 39 (9.70%) were widowed, 20 (4.98%) divorced and 11 (2.74%) were cohabiting (common law).

Table 1. Socio-demographic characteristics of respondents

Characteristics	Frequency (%)
Age group	
10-19	1 (0.25)
20-29	125 (31.09)
30-39	188 (46.77)
40-49	88 (21.89)
Total	402
Mean age	33.15 ± 6.46
Religion	
Christianity	396 (98.51)
Muslim	6 (1.49)
Total	402
Educational Level	
None	4 (1.00)
Primary	48 (11.94)
Secondary	218 (54.23)
Tertiary (OND, HND, BSc and MSc)	132 (32.84)
Total	402
Marital Status	
Single	169 (42.04)
Married	163 (40.55)
Widowed	39 (9.70)
Divorced	20 (4.98)
Non married partner	11 (2.74)
Total	402
Occupation	
Self employed	228 (56.72)
Government employee	33 (8.21)
Private employee	63 (15.67)
Housewife	7 (1.74)
Sex worker	1 (0.25)
Student	33 (8.21)
Unemployed	37 (9.20)
Total	402
State of Origin	133 (33.08)
Rivers	
Imo	60 (14.93)
Abia	33 (8.21)
Enugu	33 (8.21)
Akwa Ibom	47 (11.69)
Anambra	12 (2.99)
Delta	22 (5.47)
Cross River	14 (3.48)
Others	48 (47.76)
Total	402

3.1 Respondents' Desire to have Children

Three hundred and twenty-eight (81.6%) of all the respondents expressed their desire for children out of which 96 (29.3%) desired one to two children, 169 (51.5%) desired three to four children, 18 (5.5%) wanted five or more children and 45 (13.72%) weren't sure of the number of children they wanted. One hundred and sixty-three (69.4%) out of 235 who had at least one child still desired to have more children.

Respondents' reasons for wanting to have children included: to ensure lineage continuity and posterity 65 (19.8%), to secure relationships 79 (24.1%), pressure from relatives to reproduce

37 (11.3%), the prestige/happiness of having own children 62 (18.9%), to have a place in society 40 (12.2%), and to avoid the stigma of labelled as infertile 45 (13.7%).

Table 2. Respondents' desire to have children and number of children desired

Characteristics	Frequency (%)
Do you want to have children	
Yes	328 (81.59)
No	74 (18.41)
Total	402
Number of children you want to have	
1-2	96 (29.27)
3-4	169 (51.52)
≥5	18 (5.49)
I do not know yet	45 (13.72)
Mean	**2.93±1.24**
Total	328
Already have child(ren)	
Yes	235 (58.46)
No	167 (41.54)
Total	402
Number of living children you already have	
1-2	155 (65.96)
3-4	62 (26.38)
5-6	17 (7.23)
≥7	1 (0.43)
Mean	**2.22 ± 1.39**
Total	235
You have children but want more children	
Yes	163 (69.36)
No	72 (30.64)
Total	235
Why do you want to have children	
To ensure lineage continuity and posterity	65 (19.82)
To secure relationships	79 (24.09)
Pressure from relatives to reproduce	37 (11.28)
The prestige/happiness of having own children	62 (18.90)
To have a place in society	40 (12.20)
Stigma of being labelled as infertile	45 (13.72)
Total	328
Why don't you want (more) children	
Fear of risk of MTCTHIV	8 (10.81)
Fear that it will affect my health	1 (1.35)
Have desired number of children	45 (60.81)
Health care provider advised against it	2 (2.70)
I have low CD4	4 (5.41)
Lack of money	12 (16.22)
No partner	2 (2.70)
Total	74
Does your partner want to have children	
Yes	267 (66.42)
No	41 (10.20)
Don't have a partner	94 (23.38)
Total	402

Table 3. Association between family size preference and some characteristics

Characteristics	Total	Family Size Preference		Chi-square	p-value	df
		≤2	≥3			
Age						
<30 years	**100**	16	84	20.9413	0.001*	1
≥30 years	**183**	80	103			
Total	**283**	96	187			
Educational level						
Tertiary (OND, HND,	**95**	32	63	0.0053	0.942	1
BSc and MSc)	**188**	64	124			
≤Secondary						
Total	**283**	96	187			
Marital status						
Married/in a	**129**	25	104	46.8691	0.001*	3
relationship	**12**	3	9			
Divorced	**25**	2	23			
Widowed	**117**	66	51			
Single						
Total	**283**	96	187			
Knowledge about PMTCT						
Yes	**218**	74	144	0.056	0.813	1
No	**12**	5	7			
Total	**230**	79	151			
Disclosed Sero-status to Partner						
Yes	**160**	45	115	5.40	0.02*	1
No	**69**	31	38			
Total	**229**	76	153			

**Statistically significant (p<0.05)*

3.2 Association between Family Size Preference and Some Characteristics

Significant association was found between the family size preference and age, marital status, and disclosure of Sero-status to partner ($p<0.05$). However, there was no statistically significant association between family size preference and educational level attained and knowledge about PMTCT medications.

4. DISCUSSION

The desire to bear children was very high (81.6%) among the respondents. Ninety-six (29.3%) of the respondents preferred to have one to two children, 169 (51.5%) desired three to four children, and 18 (5.5%) wanted five or more children. This could be a pointer that fertility desires among women living with HIV/AIDS (WLWHA) is not different from the general population.

In Nigeria, fertility is highest in the North-West zone with an average fertility rate of 6.7 children per woman and lowest in the South-south zone with an average of 4.3 children per woman [9].

In similar studies carried out in Uganda, Ethiopia, Tanzania, US and Canada, desire to have children among women living with HIV was lower; between 40% and 69% [10-15]. This might have been influenced by varying social and cultural differences, better knowledge, and awareness about PMTCT services and better ART access and coverage over the years. Increasing access to ART is changing the context of future childbearing for people living with HIV/AIDS. Prevailing values mean that, for many people living with HIV/AIDS, having children is seen as necessary for a “normal” and healthy adult life. However, the social rewards of childbearing may be a conflict with moral necessities of HIV prevention.

Some studies in Nigeria reported 68.4% desire for fertility and average family size preference of ≥ 2 [16]. Another study also found that 65.5% of HIV positive women expressed a desire to have

more children, out of which 48.4% preferred to have two children and 40.2% desired three or more children [17].

Although it has been established that treating HIV-positive mothers with antiretroviral drugs (ARVs) during pregnancy, delivery and breastfeeding reduces the risk of a mother transmitting HIV to her child by up to 90%, [18] this high desire to bear children and the average number of children desired by these women still poses a risk to the spread of the disease.

Other methods such as breastfeeding substitution and elective caesarean section which have shown to reduce the risk of transmission may not be widely accepted, practiced, or adhered to; especially in certain cultural settings, where having a vaginal delivery and breastfeeding of infants are held with high regards. In Nigeria, religious beliefs, and the high cost of acquiring caesarean section and other available assisted reproductive options may constitutes a barrier to the uptake of these services which have negative impacts in the reduction of vertical transmission of HIV in this region.

Factors such as age, marital status, and disclosure of Sero-status to partner were found to be associated with family size preferences ($p<0.05$). This may be attributed to the expected norms of the Nigerian society that prefers and believes that marriage and childbearing is good if it happened at a younger age and where women's reproductive decisions are subject to that of their partners. However, this relationship between age and fertility desire has significant consequence on this disease which is most prevalent among young adults [19,2].

Some studies, however, did not find any association between age and desire for children, and between marital or relationship status, disclosure of Sero-status to partner and the desire to have children [20,21,11,16].

The reproductive health needs of HIV positive women cannot be properly attended to without an understanding of the complexity behind their reproductive decision making. It is very important that health care providers and professionals address these issues by providing practicable and appropriate counselling and care services and exploring other reproductive options with these women to enhance or promote responsible reproductive decision making and reduce risky behaviours among HIV infected women.

Study limitations, in the face of study design, methods and result interpretation, include the inability to determine causality as well as the inability to understand changing fertility desires, which are likely to change with duration of HIV and ART. More so, responses were self-reported, thus making it subject hence subject to information bias.

5. CONCLUSION

The HIV status of the respondents did not influence their desires and intentions to have children. Women want to control childbearing but need enough information to make healthy choices without risking transmission. Better education on the relationship of perceived good physical health, low CD4 cell count and the risk of mother to child transmission is required. There is need for practicable and appropriate reproductive counselling to ensure that the necessary knowledge to make healthy reproductive decisions is impacted.

6. RECOMMENDATIONS

Health care providers must provide practicable and appropriate reproductive counselling and must pay close attention to the reproductive concerns of HIV positive. In so doing, women will be impacted with the necessary knowledge to make healthy reproductive decisions rather than to offer directive counselling. If this issue is not properly handled, the opportunity for the prevention of HIV and the promotion of safer pregnancies would be missed.

There is an urgent need to increase and improve accessibility to antiretroviral therapy in the country as fast as possible.

Further studies should be carried out especially outside the hospital setting to come up with more representative findings.

CONSENT

Participation in this study was voluntary with a verbal and written informed consent obtained from the respondents following an adequate explanation of the study protocol. All personal identifiers were removed from the questionnaire and confidentiality was ensured through the protection of data collected from the participants and only used only for the sole purpose for which they were collected.

ETHICAL APPROVAL

Ethical approval for the study was obtained from the University of Port Harcourt, Centre for Research Management and Development, Research Ethics Committee (Ref: UPH/CEREMAD/REC/04); and the University of Port Harcourt Teaching Hospital, Hospital Ethical Committee (Ref: UPTH/ADM/90/S.II/VOL.X/913).

ACKNOWLEDGEMENT

We are very grateful to the management of University of Port Harcourt Teaching Hospital, the HIV unit and all the women who participated in this study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Zaba B, Gregson S. Measuring the impact of HIV on fertility in Africa. AIDS. 1998;12(Suppl 1):S41-S50.
2. UNAIDS. The Gap Report; 2014. Available:http://www.unaids.org/sites/default/files/media_asset/UNAIDS_Gap_report_en.pdf
3. Dorenbaum A, et al. Two-dose intrapartum/newborn nevirapine and standard ART to reduce perinatal HIV transmission: a randomized trial. JAMA 2002;288:189-198.
4. Cooper D, Harries J, Myer L, Orner P, Bracken H, Zweigenthal V. Life is Still Going On: Reproductive Intentions among HIV-Positive Women and Men in South Africa. PubMed. 2007;65:274-83.
5. Adair T. Desire for children and unmet need for contraception among HIV positive women in Lesotho; 2007.
6. Shapiro and Ray. Sexual Health for People Living with HIV. Reproductive Health Matters. 2007;15(29 Supplement):67–92.
7. UNFPA and WHO. Sexual and reproductive health of women living with HIV/AIDS. Guidelines on care, treatment and support for women living with HIV/AIDS and their children in resource-constrained settings. Women Receiving ART. 2006;11.
8. Chen JL, Phillips KA, Kanouse DE, Collins RL, Miu A. Fertility Desires and Intentions of HIV-Positive Men and Women. Family Planning Perspectives. 2001;33(4):144–165. Available:https://doi.org/10.2307/2673717.
9. Nigeria Demographic Health Survey. Key Findings; Fertility and its determinants; 2013.
10. Sarah AG, Fatuma N, Starley BS, Florence M. Fertility Desires and Intentions among HIV-Positive Women During the Post-Natal Period in Uganda. African Journal of Reproductive Health. 2014;18(3):77.
11. Tamene and Mesganaw. Fertility desire and family-planning demand among HIV-positive women and men undergoing antiretroviral treatment in Addis Ababa, Ethiopia. Afr J AIDS Res; 2007.
12. Haile F, Isahak N, Dessie A. Fertility Desire and Associated Factors among People Living with HIV on ART, In Harari Regional State, Eastern Ethiopia. J Trop Dis. 2014;2:137. DOI: 10.4172/2329-891X.1000137.
13. Elia JM, Germana HL, Mangi JE, Deodatus CK. Fertility Desire and Intention of People Living with HIV/AIDS in Tanzania: A Call for Restructuring Care and Treatment Services, BMC Public Health. 2013;13:86. DOI: 10.1186/1471-2458-13-86.
14. Chen JL, Philips KA, Kanouse DE, Collins RL, Miu A. Family Planning Perspective Fertility Desires and Intentions of HIV-Positive Men and Women. African Journal of AIDS Research. 2001;33(4):144-52.
15. Loutfy MR, Hart TA, Mohammed SS, Su D, Ralph ED, Walmsley SL, et al. Fertility Desires and Intentions of HIV-Positive Women of Reproductive Age in Ontario, Canada: A Cross-Sectional Study PlosOne; 2009. Available:http://journals.plos.org/plosone/article?id=10.1371/journal.pone.000792
16. Oladapo OT, Daniel OJ, Odusoga OL, Ayoola SO. Fertility Desires and Intentions of HIVPositive Patients at a Suburban Specialist Center. Journal of the National Medical Association. 2005;97(12):1672-1681.
17. Iliyasu Z, Abubakar IS, Kabir M, Babashani, M, Shuaib F, et al. Correlates of Fertility Intentions among HIV/AIDS Patients in Northern Nigeria. Afr J Reprod Health. 2009;13(3):71-83.
18. CDC. “Achievements in Public Health Reduction in Perinatal Transmission of HIV

Infection- United States (1995-2005)" Morbidity and Mortality Weekly Report. 2006;55(21):582-597.

19. Eugene TR, Sean E, Tiffany K, James H, Khai H, Victoria L, Linda-Gail B, Andrew RZ. Gender Inequality and HIV Transmission: A Global Analysis. Journal of the International AIDS Society. 2014; 17:19035.
20. Eshetu E, Mitsiwat A. Fertility Intention and Family Planning Use among People Living with HIV/AIDS in Follow Up Care Western Shoa Zone (ART Treatment Unit). American Journal of Nursing Science. 2015;4(1):9-15. DOI: 10.11648/j.ajns.20150401.12.
21. Mitsiwat A, Getabalew E. Fertility Intention and Family Planning Use Among People Living with HIV/AIDS (PLHIV) on Follow up Care Western Shoa Zone, Anti-Retroviral Treatment (ART) Unit, Oromia, Ethiopia. ASRJETS. 2015;12(1):75-91.

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle4.com/review-history/74949