

Full Length Research Paper

Desire to procreate among people living with HIV/AIDS: Determinants in Ethiopia: A cross-sectional study

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This study focused on the assessment of determinants of fertility desire among people living with HIV/AIDS (PLWHA) in Mekelle town, Tigray, in Northern Ethiopia. An institution based cross sectional study was conducted, by interviewing members of the PLWHA associations in Mekelle town. Three hundred and seven subjects participated with a response rate of 95%, the median age of the respondents was 32. Majority (60%) of the respondents were males, 43% of all respondents were single and had a median monthly income of Birr 600.00 (35 USD), Majority of all respondents 203 (66.1%) expressed a desire to procreate, while 104 (33.9%) of them had no desire to procreate. House wives were 5.65 times more likely to want a child as compared with the other respondents OR=5.65 (1.29, 24.74). A considerable number of PLWHA expressed their desire to have a child in the future. Policy makers and health practitioners need to consider and plan for the implications of increased numbers of PLWHA who may choose to have children and should implement strategies so as to address PLWHA's fertility issues in more comprehensive manner.

Key words: PLWHA, procreate, determinants.

INTRODUCTION

Sub-Saharan Africa continues to bear the brunt of the global HIV epidemic. Two thirds (63%) of all adults and children with HIV in the world live in sub-Saharan Africa. The number of People Living with HIV/AIDS (PLWHA) in Ethiopia was estimated to be 1,300,000 out of which 92.31% were adults aged ≥ 15 and 7.69% were infants and children of age 0 to 14. The prevalence among adults of age ≥ 15 was 3.5% and sex based distribution for women and men were 2 and 0.9% respectively. The number of AIDS orphans was estimated to be 870,000 (UNAIDS and WHO, 2006).

Mother-to-child Transmission of HIV is defined as the transmission of Human Immune Virus (HIV) from infected pregnant women to her child during pregnancy, childbirth or breast feeding. It is also referred to as vertical transmission or peri-natal transmission (FMOH, 2005). The risk of transmission during pregnancy and delivery ranges from 15 to 30%; while breastfeeding from birth and during 18 to 24 months increased the overall risk to

45%, (De Cock et al., 2000). The percentage of pregnant women receiving treatment to reduce MTCT was 0.3% and that of men and women receiving ART was estimated to be 7.0% (CSA, 2005; UNAIDS, 2005).

As indicated in research findings, especially in countries where highly active antiretroviral therapy (HAART) is widely available, optimization of ART has led to great improvements in both quality of life and life expectancy of PLWHA since 1996. As a result, a number of PLWHA feel encouraged to include parenthood in the planning of their lives (James et al., 2001; Ulrike et al., 2007). As meager resources did not allow for getting ART in line with the actual needs of PLWHA, the situation in developing countries like Ethiopia remained different from those countries where universal access to HAART has been met. Furthermore, Ethiopia is supposed to strengthen its efforts towards improving accessibility of the drugs that are pertinent to HIV/AIDS so as improve the quality of life and life expectancy of PLWHA through Anti retroviral therapy (ART) and other related services.

Until very recently, most studies have demonstrated the impacts of HIV/AIDS on fertility and demographic changes with little or no attention to fertility desire of

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PLWHA victims. The limited number of studies so far in some countries have identified that demographic, socio-cultural, biological and health related factors determine HIV positive men and women's desire for children.

For women who know they were HIV positive, the literature suggests various scenarios regarding their fertility intentions (Heyward et al., 1993), while some studies have shown that pregnancy levels remain high despite an HIV-positive woman being told of her status and counselled on the risks of MTCT (Nebie et al., 2001; Temmerman et al., 1990).

A research in Cote d'Ivoire shows a strong desire for childbearing among women who knew they were HIV-positive (Aka-Dago-Akribi, 1999). Some women in high-fertility societies may wish for a child to conceal their status and ward off suspicion of their infection with a sense of normalcy to family life and an assertion of health (Rutenberg et al., 2000). In contrast, a research in Kenya found out that HIV-positive women aware of their status had a lesser desire for a future child compared to HIV-negative women (Reynolds and Wilcher, 2006). Though it lacks a pragmatic support, there are some thoughts that HIV infected women may seek to shorten birth intervals and produce more children before disease progression (Gregson, 1994; Philip, 1995).

A study conducted in Addis Ababa revealed that among HIV-positive people in ART units; 40.2% (44.7% females, 35.2% males) reported desire for children despite the fact that 63% of the respondents already had one or more child (Tamene and Fantahun, 2007). Another study in Uganda found that the overall fertility level among HIV-positive women was generally lower than that of HIV-negative women because they were more likely to be widowed, divorced or co-infected with STI (Lewis et al., 2004).

In contrast, other theories and qualitative reports predict reduced desired fertility among HIV-positive women due to fear of transmitting the virus to the future child or the process of childbearing will adversely affect their health or insecurity of one's own life span causing worries of leaving orphans behind for others to look for (Terceira et al., 2003; Gregson et al., 1997; Rutenberg et al., 2000).

A study done in Lesotho showed that a higher proportion of married HIV-positive women and women HIV-negative and never married want a child in the future compared to women HIV-positive and never married or formally married and HIV-negative and married, respectively. It also found that, among HIV-positive women, the unmet need for FP methods was high and other variables such as knowledge of MTCT, household wealth quintile, and education have no significant bivariate association with the desire for children.

A study done in Switzerland to evaluate fertility intentions and condom use among 114 HIV-positive heterosexuals (68 women, 46 men) found that 45% of the women and 38% of the men expressed their desire for

future children. Whereas a subjectively good health status seemed of greater concern; the duration of infection and current ART were revealed to have no significant influence on desire for children (Panozzo et al., 2003).

Researchers have found that for HIV-positive people, reproductive potential, demographic characteristics, ethnicity, marital status, fertility status, and partners' HIV status influenced the desire for a child, whereas the person's own clinical condition in relation to HIV had no or low impact (Heard et al., 2007; Ogilvie et al., 2007).

However, a study in the USA has found that women's health plays role and no objective parameters such as a decrease in CD4 count or a high viral load had significant influence in the desire to have children (James et al., 2001). Fertility desire of PLWHA, in Ethiopia is among those essential and critical issues which need study in wide range but still has not been studied as it requires. By knowing their fertility desire and factors influencing their desires, all HIV prevention approaches especially Prevention of Mother-To-Child Transmission (PMTCT) programs can be redesigned by taking into consideration those facts obtained at final stages of the study.

The present study therefore was intended to assess the fertility pattern especially the desire for children of PLWHA. Furthermore, an attempt has been made to give empirical evidences of desire for children, and factors influencing the desire for fertility among PLWHA.

MATERIALS AND METHODS

A cross-sectional study was conducted from August, 2010 up to April, 2011. The study area Mekelle is the capital city of Tigray administrative region in the northern part of Ethiopia, located some 776 kms north of Adis Ababa (the capital city of Ethiopia). It is one of the Ethiopian towns with rapid development and population growth. It is a special administrative city which consists of 10 kebelies (the smallest administrative structure in the region, district), and a municipality. Several Governmental and non- Governmental services are given to the community, there are three governmental health centers and one referral and training hospital, furthermore; HAART services and Voluntary counseling and testing (VCT) service is given in five centers (TRBH, 2005, 2006).

PLWHA who are organized in one of the associations in the town were the source population while the study population included those who were in good physical and mental status, being within the reproductive age range, and willing to participate in the study after informed consent.

After getting the registration book from the associations stratification based on the name of the association at which they were organized was done and then based on the inclusion criteria (Those with a better physical and mental well being, being volunteer for the study), those who were eligible were identified and numbered sequentially. Finally, through a systematic sampling method, study subjects were selected.

A pre-tested Tigrigna (local language) version questionnaire was used for data collection. The independent variables are the socio-demographic characteristics of respondents, questions about their current fertility desire and reasons for wanting or not wanting a child, questions about their individual HIV related history including their awareness about ways of HIV transmission and prevention

methods are the main ones. The interviewers were selected from those who are serving as care givers for PLWHA themselves and who were working for them for a long time and the supervisors were also selected from the corresponding offices of each association and both were trained in data collection interview technique.

The data was entered in to a computer and analyzed using SPSS version 19.0 statistical software packages. Descriptive statistics was depicted using absolute numbers, Simple percentages, range, and measures of central tendency (mean, median) as appropriate. Binary logistic regression was used to test the significance of associations and control confounders between categorical groups and other important associations (Odds ratio, confidence intervals and p-value) were also calculated, furthermore, multi co linearity diagnostics and interaction of variables was tested by the use of logistic regression model the results were presented and interpreted accordingly.

Ethical clearance and approval was obtained from Mekelle University College of the Health Sciences; Permission was also secured from Mekelle town HIV/AIDS Prevention and Control Office /HAPCO/ and the PLWHA association. Participation was on a voluntary basis after informed consent and responses were kept confidential.

RESULTS AND DISCUSSION

This quantitative, cross-sectional institution based study used information from both sexes of PLWHA to assess determinants of fertility desire. Socio- demographic and HIV related factors, which were believed to influence the desire to have or not to have children among the study population were considered in the analysis. Three hundred and seven subjects participated with a response rate of 95%. Majority (60%) of the respondents were males with a median age of 32, Forty three % of them were single and with median monthly income of Birr 600.00 (nearly 35 USD) (Table 1). This study also found that the proportion of men respondents were high , revealing that the gender differences in infection level where males are more likely to be affected by the epidemic and their higher propensity to disclose their HIV-positive status and seek more help for their health than those of females (Table 2).

The study has found that considerable proportion of 203 (66.1%) of PLWHA respondents, (Male 41.7%, and Female 24.4%) have a desire to have children in the future (Figure 1) . The findings for both sexes were consistent with the result of US, James et al., (2001) and with regard to females resemble with other studies in African countries (Terceira et al., 2003; Gregson et al., 1997). But lower than the study finding in Addis Ababa (Rutenberg et al., 2000).

The majority of respondents were single (43.6%), and 32.2% of them were married or cohabiting, and considerable proportion of PLWHA (81.8%) have at least one child .This study revealed that those married or cohabiting were 0.39 times having less desire to have a child, OR= 0.39 (0.18, 0.85) than those who were not (Table 3). This could be explained by the number of children they already have. Whereas, being ever married or cohabited or never married have no association with

fertility desire, a result which is consistent with the study conducted in Addis Ababa, other African country, Europe and the US (Tamene and Fantahun, 2007; Rutenberg et al., 2000).

Obviously, worldwide motherhood is revealed as a desired role and perceived by many as an index for successful womanhood. In contrast, this study revealed that females (32.2%) were more likely to want children in the future than do males (43.6%). This finding is against the study conducted in Addis Ababa (Tamene and Fantahun, 2007). Studies conducted, in other African countries, to explore the relationship between HIV-positive diagnosis and subsequent childbearing behavior, have found that known HIV status has little association with fertility preference. Consistent with this, interventions with HIV-positive women in Africa have not been found to motivate a significant change in reproductive outcomes. Qualitative research in Ivory Cost showed a strong desire for future childbearing among women who knew their HIV-positive status even though they had been advised not to have more children because of their infection (Aka-Dago-Akribi, 1999). Regarding HIV related factors, subjectively perceived health status of individuals have been found to be significantly associated to future fertility desire, where those who felt healthy expressed their desire for future child than those who did not. The study also revealed that if the partner of the respondents is aware of the HIV status they are 1.7 times likely to have a desire for a child as compared with those who did not disclose their status to their partners OR=1.70 (1.02, 2.80). The findings of the present study are consistent with findings of other countries (Heard et al., 2007; Ogilvie et al., 2007). Whereas, duration of infection, current antiretroviral therapy, and objective parameters such as CD4 count had not any significant influence in the desire of children among PLWHA (Panozzo et al., 2003; James et al., 2001).

In contrast to the study finding in Africa (Heard et al., 2007), the present study revealed that attending formal education was not significantly associated with fertility desire among PLWHA. The aforementioned result could be attributed to the fact that the information provided to the community in terms of HIV/AIDS is the same for all the society. Though it was assumed to expect some differences from those who had attended formal education, still further study is recommended to explore the reason behind this result (Table 4).

Conclusion

Considerable number of people living with HIV/AIDS has expressed their desire to have a child in the future. Sex (being female and a house wife), partner disclosure, and being married were found to be determinants for fertility desire among PLWHA, while other socio demographic factors do not contribute for fertility desire in these population. Other factors like HAART, CD4 count, duration

Table 1. Socio-demographic characteristics of PLWHA, Mekelle, Tigray, Ethiopia, August, 2010 to April, 2011 (n=307).

Variable	n	%
Sex		
male	185	60.3
female	122	39.7
Total	307	100.0
Age		
15-20	14	4.6
21-30	128	41.7
31-40	116	37.8
41-50	37	12.1
51-60	12	3.9
Total	307	100.0
Education		
no education	47	15.3
able to read and write	36	11.7
gradeb 1-4	30	9.8
grade 5-8	63	20.5
grade 9-12	74	24.1
grade 12 and above	57	18.6
Total	307	100.0
Religion		
Orthodox	271	88.3
Muslim	36	11.7
Total	307	100.0
Occupation		
student	19	6.2
house wife	33	10.7
Government employee	54	17.6
Private sector employee	30	9.8
trader	52	16.9
farmer	30	9.8
daily laborer	44	14.3
unemployed	27	8.8
sex workers	6	2.0
Others	12	3.9
Total	307	100.0
Marital status		
Single	134	43.6
Married	99	32.2
Divorced	36	11.7
Widowed	38	12.4
Total	307	100.0
Monthly Family income in Birr (1 Birr = 17 USD)		
0-500	121	39.4
501-1500	136	44.3

Table 1. Contd

1501-2500	37	12.1
2501 and above	13	4.2
Total	307	100.0
Number of children		
No child	56	18.2
1.00 child	100	32.6
2.00 children	91	29.6
3.00 children	43	14.0
4.00 children	17	5.5
Total	307	100.0

Table 2. HIV/AIDS related information of the PLWHA, Mekelle, Tigray, Ethiopia, August, 2010 to April, 2011 (n=307).

Variable	n	%
Receiving HAART		
yes	234	76.2
no	73	23.8
Total	307	100.0
CD4count2		
0-200	46	15.0
201-300	97	31.6
301-400	74	24.1
401-500	79	25.7
501-600	8	2.6
601-700	3	1.0
Total	307	100.0
Currently using contraceptives		
yes	202	65.8
no	105	34.2
Total	307	100.0
Regular partner knows HIV status		
yes	142	46.3
no	165	53.7
Total	307	100.0
Recent AIDS stage		
Stage 1.00	204	66.4
Stage 2.00	98	31.9
Stage 3.00 & 4.00	5	1.6
Total	307	100.0

of disease, awareness on the ways of HIV transmission have not any significant association. Knowledge of fertility needs among PLWHA and factors that are associated with fertility desire will help to design implementation strategies for HIV/AIDS prevention and control efforts so

as to decrease significantly the transmission of the virus from, mother-to-child and to the partner as well. Encouraging PLWHA who don't have future fertility desire, to strengthen their stand, by providing adequate and proper information and counseling emphasizing on

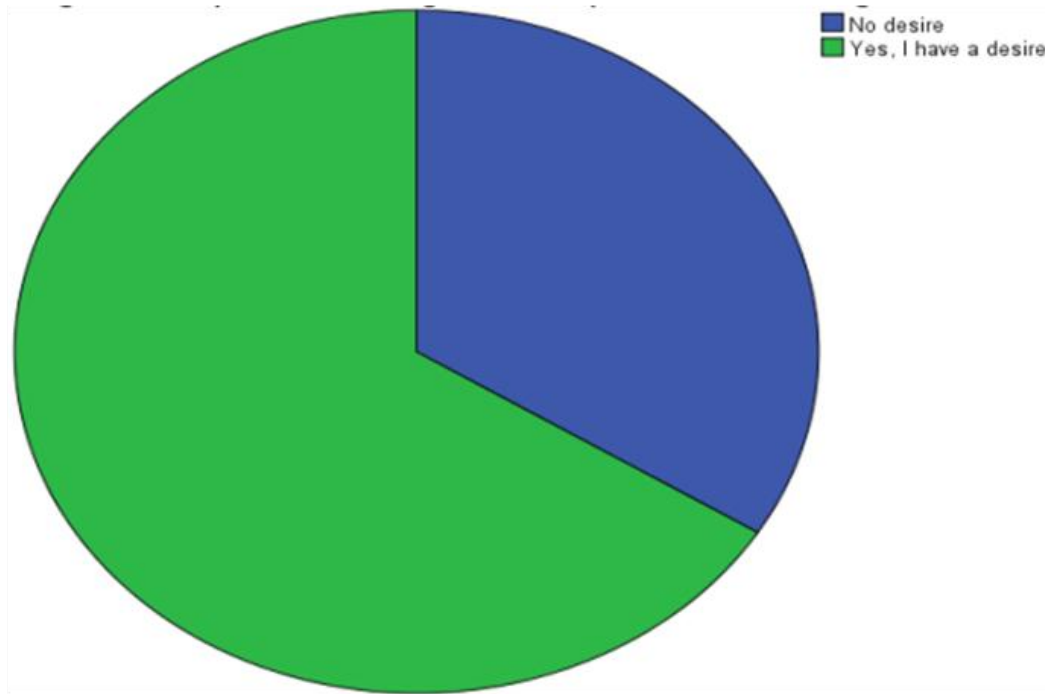


Figure 1. Respondents having a desire to procreate while living with HIV/AIDS.

Table 3. Association between socio demographic variables and fertility desire of PLWHA, Mekelle, Tigray, Ethiopia, August, 2010 to April, 2011, (n=307).

Variables	Fertility desire		Adjusted odds ratio, 95% confidence interval
	Yes (n)	No (n)	
Sex			
Male	128	57	1
Female	75	47	0.43 (0.23, 0.79)*
Age			
15-20	12	2	1
21-30	90	38	0.40(0.09, 2.06)
31-40	72	44	0.39(0.07,2.06)
41-50	24	13	0.45 (0.07, 2.94)
51-60	5	7	0.13(0.02, 1.14)
Education			
no education	36	11	1
able to read and write	18	18	0.30 (0.11, .82)
grade 1-4	20	10	0.59 (0.19, 1.79)
grade 5-8	46	17	0.65(0.25, 1.73)
grade 9-12	47	27	0.39 (0.15, 1.04)
grade 12 and above	36	21	0.38 (0.13, 1.09)
Religion			
Orthodox	181	90	1
Muslim	20	12	0.90 (0.38, 2.19)
Catholic	2	2	0.45 (0.05, 4.73)

Table 3. Contd.

Occupation			
student	12	7	1
house wife	26	7	5.65 (1.29, 24.74)*
Government employee	37	17	1.36 (0.39, 4.64)
Private sector employee	19	11	1.02 (0.28, 3.76)
trader	31	21	0.69 (0.19, 2.46)
farmer	19	11	0.75 (0.19, 3.04)
daily laborer	27	17	0.89 (0.25, 3.27)
unemployed	20	7	2.05 (0.50, 8.34)
sex workers	4	2	1.47 (0.18, 11.92)
Others	8	4	1.35 (0.26, 7.06)
Marital status			
Single	97	37	1
Married	58	41	0.39 (0.18, 0.85)*
Divorced	23	13	0.83 (0.31, 2.19)
Widowed	25	13	1.16 (0.39, 3.41)
Monthly Family income in Birr (! Birr= 17USD)			
0-500	77	44	1
501-1500	91	45	1.27 (0.68, 12.38)
1501-2500	26	11	1.57 (0.61, 4.04)
2501-3500	9	4	2.43 (0.48, 12.21)
No. of children			
No child	38	18	1
1.00 Child	69	31	1.20 (0.55, 2.62)
2.00 Children	58	33	0.98(0.43, 2.24)
3.00 Children	27	16	0.99(0.38, 2.65)
4.00 Children	11	6	0.81(0.22, 2.99)

Table 4. Association between HIV/AIDS related variables and fertility desire of PLWHA, Mekelle, Tigray, Ethiopia, August, 2010 to April, 2011, (n=307).

Variables	Fertility desire		Adjusted odds ratio, 95% confidence interval
	Yes (n)	No (n)	
Receiving HAART			
yes	86	18	1
no	148	55	1.732 (0.93, 3.23)
CD4 Count			
0-200	13	33	1
201-300	34	63	0.64 (0.29, 1.41)
301-400	22	52	0.86(0.37, 1.98)
401-500	33	46	0.49(0.22, 1.12)
501-600	2	6	0.98 (0.17, 5.79)
No of children			
No child	18	38	1
1.00 Child	31	69	1.15 (0.55, 2.40)

Table 4. Contd.

2.00 Children	33	58	0.89(0.43, 1.89)
3.00 Children	16	27	0.81(0.33, 1.96)
4.00children	6	11	0.97(0.29, 3.23)
Stable sexual partner			
Yes	69	35	1
No	123	79	1.34(0.79, 2.26)
Partner knows status			
Yes	57	47	1.70 (1.02, 2.80)*
No	85	118	1

the potential health consequences of childbearing to the mother and the newborn is of paramount importance.

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