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Research Article

Fertility Desire and Its Associated Factors Among People Living with HIV Attending Antiretroviral Therapy in Addis Ababa, Ethiopia

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Abstract

Background: Worldwide, due to the increased in the accessibility of antiretroviral therapy the number of people living with HIV (PLHIV) is increasing. The treatment has improved the health status and life expectancy of PLHIV making them to enjoy life similar to uninfected individuals. Even though efforts are being made directed towards expanding the service globally and in sub-Saharan Africa, but little attention is given towards the reproductive health needs of PLHIV. Now a day's people living HIV continued to desire a child requiring a global attention. Therefore, this study was aimed to assess fertility desire and the associated factors among people living with HIV in Addis Ababa**,** Ethiopia, 2023/24. *Method:* A health facility based cross-sectional study was conducted among 602 people living with HIV in Addis Ababa, Ethiopia. A multi-stage sampling technique was used to select the study participants. Using SPSS version 27 binary and multivariable logistic regression was done to ascertain the factors associated with fertility desire with a 95% confidence interval. *Results:* In the past six months 83.1% of the PLHIV were sexually active. Overall, nearly half (47.25%) of the PLHIV had reported fertility desire. People living with HIV who had no child had a higher odds of fertility desire (AOR (95% C.I): 2.70 (1.71- 4.24)) than who had children. In addition to this, being single, partner fertility desire, discussion with an ART provider about sexuality, fertility desire and family planning, had faced community pressure to have a child, perceived improved health status, had an HIV negative sexual partner and HIV diagnosed before nine years were found to be predictors of fertility intentions. *Conclusion:* Nearly half of the PLHIV had reported fertility desire in the future where discussion about sexuality, fertility desire and family planning with ART provider had showna significant association with it. Therefore, health care providers and the concerned bodies should work together in strengthening the reproductive health needs of PLHIV along with HIV care and support so that they may decide freely and responsibly on their own reproductive health matters.

Keywords

People Living with HIV, ART, Addis Ababa, Fertility Desire

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1. Background

According to the 2018 World AIDS day report; in the year 2019, 36.9 million people were living with HIVwhere about 2 million people were globally newly infected with HIV and an estimated 1.4 million of new HIV infections were from sub-Saharan Africa [1]. In Ethiopia, according to the 2011 Heath and health related indicators there were more women (2.9%) living with HIV than men (1.9%) [2]. Worldwide, as of June 2020, 15.8 million people were accessing antiretroviral therapy and the number of people living with HIV (PLHIV) continued to be increasing and they are living longer, healthier lives [1]. The treatment has improved the health status and life expectancy of PLHIV making them enjoy life similar to uninfected individuals [3-5]. Though major efforts are being made directed towards expanding access to antiretroviral therapy in sub-Saharan Africa [6] but little attention is giventowards the reproductive health needs of PLHIV [7].

Now a day's reproductive health matters of PLHIV is the growing issue as different studies revealed that, even after knowing their HIV positive status, many women continued to desire children [8-10]. This implies being PLHIV didn't affecttheirreproductive intentions negatively [11, 12], where the majority of women were intended to have more than two children [13, 14]. Therefore, this has a significant implication for the transmission of HIV to sexual partners and newborn [15, 16].

A study done in Tanzania revealed that 60.5% of the study participants were sexually active and the rate of unprotected sex was 69.0%. During the time of the survey, 12.5% of the women were reported to be pregnant. About 37% of the study participants had fertility desire and their lifetime fertility intention was 2.4 children [17]. Since HIV diagnosis was made, in Uganda, 17.6% of PLHIV had produced a child, and 28.6% of the participants want to have a child in the near future [18]. A cross-sectional study done among mutually disclosed sero-discordant couples in Uganda found that 59% of the couples had desired to have children sometime in the future [19]. However, the fertility desire among PLHIV in Ethiopia was found to be higher than the above mentioned studies where 39.1% of HIV positive men and women [20], 44% [21] and 45.5% [22] of HIV positive women reported a desire to have children in the future.

Different studies have demonstrated the factors associated with fertility desire; a study done in Uganda found that the increased in fertility desire was significantly associated with partner's belief to have a child irrespective of HIV serostatus. Among the couples; the woman was HIV-positive, the odds of increased fertility desire was significantly associated with young age and relatives' pressure to have a child, on the other hand, the man was HIV positive, having good knowledge about the effectiveness of ART was related tothe increased fertility desire [19]. Furthermore, an increased in fertility desire, for both sexes, was documented among those who live with a partner and had sexual intercourse, a perceived improved health status and a CD4 count of 200 or more cells [17].

Similarly, age, marital length, biological children, pressure from sexual partner and the community for children and duration since HIV diagnosis was made [20], being on ART [21], having a relatively few children [22] and HIV disclosure status to husband/sexual partner [17] were significantly associated with increased fertility desire. On the contrary, to the above mentioned, having more than two children among women, divorce and separation and having a child from current sexual partner for both sexes [17], young age, single in marital status and had lost some children [18] and having information on contraception [19] were inversely associated with fertility desire in the future.

Most of the studies done in the world as well as in Ethiopia are conducted among women living with HIV where the findings could be under and/ or overestimate fertility intention; would not reflect the approximate fertility level. Moreover, the studies done in Ethiopia are not consistent in every part of the country which could be influenced by different societal factors. Thus, this study was aimed to assess fertility desire and the factors associated with it among people living with HIV in Addis Ababa. Ethiopia.

2. Methods

Study area and period

The study was conducted in the three sub cities (Addis Ketema, and Kolfe Keranio sub city) of Addis Ababa from September to October 30, 2023. Addis Ababa is the capital city of Ethiopia, founded in 1886, is located at 9.03^0 North and 38.74^0 East. The city is subdivided into ten sub city administrations and according to the 2019 Central Statistical Agency population projection for Ethiopia, Addis Ababa has a total population of 4.35 million people in the year 2019(23).

According to the 2019 Ethiopian Demographic and Health Survey the percentage prevalence of HIV among men and women age 15-49 in Addis Ababa was 5.2%, it is the second highest prevalence in the country next to Gambella region (6.5%)(24). In the city, in the year 2019 there were five public hospitals, thirteen private hospitals, 25 health centers and one clinic proving ART service (25) and there were 124,983PLHIV enrolled in the service, 76,035 ever started and 54,667 of them were on ART(26).

In the three sub cities, *there are* a total of 28 governmental Health Centers; ten in Addis Ketema sub city, seven in the-Kirkos sub city and eleven in theKolfe Keranio sub city. However, only eleven of them are providing ART service; three in the Addis Ketema sub city, and five in the Kolfe Keranio sub city(27).

2.1. Study Design

A health facility based cross sectional study was conducted in the three sub cities of Addis Ababa. The study was conducted among PLHIV who were on ART follow up; i.e., who had at least one visit to the selected Antiretroviral (ARV) treatment units for care and follow up.In this study fertility desire was defined as *'PLHIV who had a desire to have at least one child within or after a year'.*

2.2. Sampling

A single population proportion formula was used to determine the sample size; where a 95% confidence interval, 5% margin of error, a 39.1% level of fertility desire among PLHIV in Fitche Hospital [23], 10% non-response rate and 1.5 design effect were assumed in the determination process. Based on this assumption, finally we get a sample of 604 people living with HIV.

A multistage sampling technique was employed to select the study participants. At stage one, out of the ten sub cities in Addis Ababa, three sub cities were selected using a simple random sampling technique. Similarly, at stage two, using a simple random sampling method, from eleven health centers providing Antiretroviral Treatment (ART) and Prevention of Mother to Child Transmission of HIV (PMTCT) service six health centers were selected. Finally the study participants were selected using a systematic random sampling method with proportionate allocation to size where the sampling interval 'K' was determined for each health facility based on the previous six months client flow.

People living with HIV, those in a reproductive age group (18-49 for women and 18-60 for men) and had at least one visit to the selected health centers ARV treatment units were included in this study.The lower age cut point was based on the 2000 the revised family code proclamation of Ethiopia "Article 31: Age without prejudice to Sub-Article (2) of Article 7 of this Code, marriage concluded by a man or a woman under the age of eighteen years shall dissolve on the application of any interested person or the public prosecutor"(28). On the other hand, all PLHIV who were unable to hear, mentally disabled, and seriously ill were excluded from the study.

2.3. Data Collection

An interview administered structured pre-tested close-ended questionnaire was used to collect the data. The questionnaire was first prepared in English and was translated into Amharic Version, which later on were translated back to the English version to check its consistency. It was mainly focused on socio-demographic variables, period of ART follow up, fertility desire, and Mother to Child Transmission of HIV/AIDS /Prevention of Mother to Child Transmission of HIV/AIDS. The data were collected after briefing the objective of the study and verbal informed consent. The data were collected by 17 data collectors (clinical nurses) and five supervisors (public health officers). It was collected in the quietest corner of the health center where there was no noise and disturbance and took an average of 40 minutes.

To assure the quality of the data, pretest was done on 5% of the sample size and two days of training was given for the data collectors and the supervisors on the objective of the study, the tool /questionnaire, the data collection procedure and the ethical procedures. The collected data were checked on a daily basis for completeness and consistency.

Data analysis

Data were coded and entered into Epidata version 3.1 and were exported to SPSS version 20.0 for analysis. Descriptive frequencies were conducted to describe the study population in relation to relevant variables. Bivariate logistic regression analysis was used to assess the association between the dependent and independent variables. Finally, variables which show an association in the bivariate logistic regression and p-value less than 0.05 with 95% confidence interval were entered into the multivariable logistic regression model to identify key significant factors associated with the dependent variable (fertility desire).

2.4. Ethical Consideration

Ethical clearance was obtained from Debre Markos University, College of Medicine and Health Sciences, Research Ethics Committee. A formal letter of permission and support was obtained from the Addis Ababa Health Bureau and Sub-City Health Department to the respective Health Centers. After explaining the purpose of the study a verbal informed consent was obtained from the participants. Confidentiality of information was maintained by omitting any personal identifier from the questionnaire.

3. Results

Socio demographic characteristics of PLHIV

In this study a total of 602 PLHIV were participated obtaining a 99.67% response rate. The majority, 223 (37.04%) of them were from Kolfe Keranio sub city. Three hundred thirteen (51.99%) of them were females and 171 (28.4%) of them were above the age of 34 years with a mean age of 30.73 (±6.48) years. About half of the participants, 305 (50.7%) were Orthodox Christians and only 240 (39.9%) of them had attained secondary level of education. With regard to marital status 208 (34.6%) of them were currently married and 290 (48.2%) of them had a monthly income of 601-1000 Ethiopian Birr (Table 1).

Table 1. *Socio demographic characteristic of PLHIV on ART in Addis Ababa, Ethiopia, 2024(n = 602).*

Variables		Frequency	Percentage
Age	<= 24 Years	116	19.3
	25-29 Years	165	27.4
	30-34 Years	150	24.9
	>=35 Years	171	28.4
Sex	Male	289	48.0
	Female	313	52.0
Religion	Orthodox Christians	305	50.7
	Muslim	162	26.9
	Protestant	118	19.6
	Catholic	17	2.8
Ethnicity	Amhara	200	33.2
	Oromo	175	29.1
	Tigrie	100	16.6
	Gurage	127	21.1
Marital status	Single	178	29.6
	Married	208	34.5
	Dissolved†	216	35.9
Educational status	Illiterate	41	6.8
	Read and write only	31	5.1
	Primary	172	28.6
	Secondary	240	39.9
	Preparatory	82	13.6
	12+	36	6.0
Occupational status	Housewife	31	5.1
	Daily laborer	32	5.3
	Bar worker	65	10.8
	Government employed	129	21.4
	Private employed	321	53.3
	Others††	24	4.0
Monthly income(Ethiopian Birr)	<=600 Birr	72	12.0
	601-1000 Birr	290	48.2
	1001-1400 Birr	112	18.6
	>=1401 Birr	128	21.3

† (widowed/divorced), †† (student and merchant)

Sexual activity and contraceptive use

The majority of the PLHIV 500 (83.1%) were sexually active in the past six months. Of those who were sexually active in the past six months 289 (57.8%) of them were using condom, of which 204 (70.59%) used always. The main reasons mentioned for use of condom wereto prevent pregnancy

227 (78.55%), to protect a negative partner 22 (7.61%) and 40 (13.84%) of them had mentioned that they were advised by health providers. Whereas for those who had not used condom the main reasons mentioned were desired to conceive and the partner's objection which account 143 (67.77%) and 68 (32.23%) respectively. During the survey 302 (50.2%) of them or their partners were using contraceptives; the most widely used method was pills, 257 (85.1%). The choice of the family planning method used for 153 (50.66%) of them was based on its comfort to them or their partners' health.

More than half, 336 (55.8%) of the participants had gave birth; of these 295(87.8%) of them had one to two living children whereas the rest had three or more children. Previously, for those who gave birth, 36 (10.71%) of their children were died related to HIV/AIDS. One hundred six (17.6%) of the PLHIV had a history of at least one pregnancy or their partners were pregnant post-HIV diagnosis.

Fertility desire of PLHIV

In this study out of the 602 interviewed PLHIV 284 (47.2%) of them had fertility desire; 108 (38.0%), 129 (45.4%), and 47 (16.5%) were desired to have a child within the next 12 months, within two years and after two years respectively. Their desired number of children were one, two and three to four for the 72 (25.4%), 163 (57.4%) and 49 (17.3%) PLHIV's respectively. With regard to the preference of the sex of a child born in the future, 125 (44.01%) didn't prefer any sex while 83 (29.23%) of them preferred male sex.

The main reasons mentioned for their fertility desire were; 116 (40.85%) of them wanted to have at least one child to replace themselves, 139 (48.94%) did not have the desired number of children and 24 (8.45%) of them want to strength their marriage. Moreover, other PLHIV's wanted to replacethe previous deadchild and believed that by using ART/PMTCT to get HIV free baby (perceived efficacy of PMTCT and ART). To be pregnant or their partner's to be pregnant, 112 (39.44%) of them had taken measures; 70 (62.5%) stopped taking contraceptive methods, 24 (21.43%) of them discussed with the caregivers and 18 (16.07%) had approached their partners. On the other hand, among those who had no fertility desire, 121 (38.05%) and 116 (36.48%) of them had mentioned that their main reasons for not having a fertility desire in the futurewere child bearingwould compromise their or partner's health and fear of MTCT respectively (Figure 1).

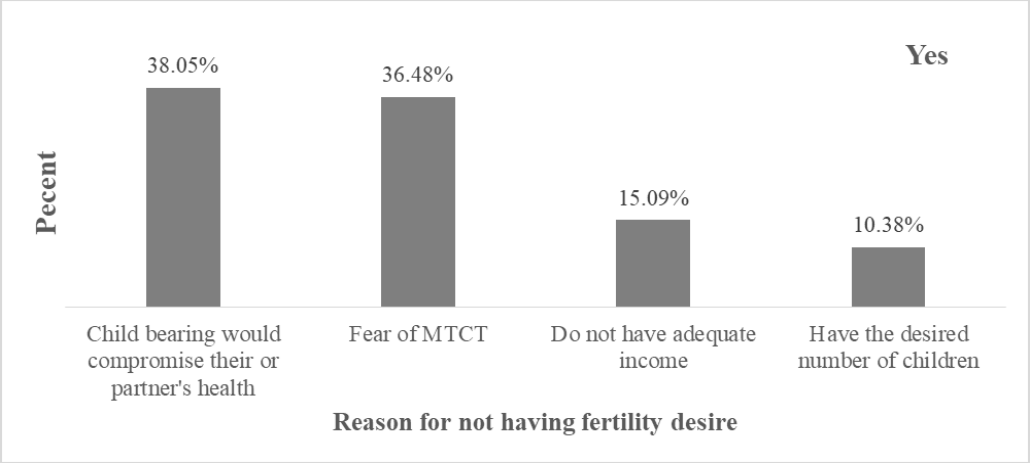

Figure 1. *Reasons for not having fertility desire among PLHIV on ART in Addis Ababa, Ethiopia, 2024.*

Factors associated with fertility desire among PLHIV on ART in Addis Ababa

According to the multivariable analysis PLHIV who were single and had no child were 3.36 and 2.70 times more likely to have fertility desire in the future than those who had dissolved their marriage (AOR (95% C.I) 3.36 (1.96-5.73)) and had a child (AOR (95% C.I): 2.70 (1.71- 4.24)) respectively. The study participants who had discussed about sexuality, fertility desire and family planningwith ART provider were 3.18 times more likely to have a fertility desire than those who didn't discuss (AOR(95%: CI: 3.18 (1.76- 5.77)).

People living with HIV who had faced partner and community pressure to have a child had a4.18 and 2.29 times higher odds of fertilitydesire than those who had not faced such pressure(AOR(95% CI) 4.18(2.75 - 6.36)) and(AOR(95%CI: 2.29 (1.07 - 4.89)) respectively. ThosePLHIV's who were diagnosed before nineyears were 2.62 times more likely to desire a child than those diagnosed within three years (AOR(95%CI: 2.62(1.61 - 4.25)). Similarly, the odds of fertility desire were 2.75 times higher among those who had a perceived improved health statusthan those who had no change (AOR (95% CI: 2.75(1.71- 4.41)). Furthermore, individuals who hadan HIV negative sexual partner were 2.62 times more likely to desire children than their counterparts (AOR(95% CI: 2.62(1.61- 4.25). However, age of respondent, monthly income and who had faced family pressure to have a child were confounding variables (Table 2).

Table 2. *Factors associated with fertility desire among PLHIV in Addis Ababa, Ethiopia, 2024 (n = 602).*

Variables		Fertility Desire		Crude Odds Ratio (95% C.I.)	Adjusted Odds Ratio (95% C.I.)
		Yes	No		
		No (%)	No (%)		
Age	>=35 Years	74 (43.3)	97 (56.7)	1.00	1.00
	<= 24 Years	73 (62.9)	43 (37.1)	2.23 (1.37 - 3.61)**	1.02 (0.47 - 2.23)
	25-29 Years	74 (44.8)	91 (55.2)	1.07 (0.69 - 1.64)	1.26 (0.67 - 2.35)
	30-34 Years	63 (42.0)	87 (58.0)	0.95 (0.61 - 1.48)	1.08 (0.58 - 2.00)
Marital status	Dissolved	66 (30.6)	150 (69.4)	1.00	1.00
	Single	116 (65.2)	62 (34.8)	4.25 (2.79 - 6.49)***	3.36 (1.96 - 5.73)***
	Married	102 (49.0)	106 (51.0)	2.19 (1.47 - 3.25)***	1.55 (0.92 - 2.61)
Monthly income (Ethiopian Birr)	<=600	40 (55.6)	32 (44.4)	1.00	1.00
	601-1000	140 (48.3)	150 (51.7)	0.75 (0.44 - 1.25)	0.97 (0.51 - 1.87)
	1001-1400	45 (40.2)	67 (59.8)	0.54 (0.30 - 0.98)*	0.67 (0.32 - 1.41)
	>=1401	59 (46.1)	69 (53.9)	0.68 (0.38 - 1.22)	0.76 (0.37 - 1.55)
Gave birth	Yes	124 (36.9)	212 (63.1)	1.00	1.00
	No	160 (60.2)	106 (39.8)	2.58 (1.85 - 3.59)***	2.70 (1.71 - 4.24)***
Partner fertility desire	Yes	213 (63.6)	122 (36.4)	4.82 (3.39 - 6.85)***	4.18 (2.75 - 6.36)***
	No	71 (26.6)	196 (73.4)	1.00	1.00
Discuss with ART provider	Yes	71 (75.5)	23 (24.5)	4.28 (2.59 - 7.06)***	3.18 (1.76 - 5.77)***
	No	213 (41.9)	295 (58.1)	1.00	1.00
Face family pressure for having children	Yes	69 (66.3)	35 (33.7)	2.60 (1.67 - 4.04)***	1.03 (0.57 - 1.87)
	No	215 (43.2)	283 (56.8)	1.00	1.00
Face community pressure for having children	Yes	39 (73.6)	14 (26.4)	3.46 (1.84 - 6.51)***	2.29 (1.07 - 4.89)*
	No	245 (44.6)	304 (55.4)	1.00	1.00
Duration since HIV Diagnosis	<=3 years	74 (62.2)	45 (37.8)	1.00	1.00
	4 - 6 years	106 (46.5)	122 (53.5)	0.53 (0.34 - 0.83)**	0.89 (0.51 - 1.54)
	7 - 9 years	48 (29.8)	113 (70.2)	0.26 (0.16 - 0.43)***	0.64 (0.34 - 1.19)
	>=10 years	56 (59.6)	38 (40.4)	0.90 (0.52 - 1.56)	2.62 (1.61 - 4.25)*
Perceived health status	No change	50 (32.5)	104 (67.5)	1.00	1.00
	Improving	234 (52.2)	214 (47.8)	2.27 (1.55 - 3.34)***	2.75 (1.71 - 4.41)***
Partner HIV status	Positive	202 (42.6)	272 (57.4)	1.00	1.00
	Negative	82 (64.1)	46 (35.9)	2.40 (1.60 - 3.60)***	2.62 (1.61 - 4.25)***

Significant at *p-value < 0.05, **p-value < 0.01, and ***p-value < 0.001.

4. Discussion

In this study the prevalence of fertility desire of PLHIV was 47.2%, which is higher than a study done in Fitche Hospital [20], Addis Ababa [20], Finoteselam Hospital [24], Hosanna (30), and South Wollo (31). This difference might be due to the time gap; i.e., as the time goes up the opportunities and/ or accessibility of health services and their knowledge about the disease and the health services might advance. Furthermore, it could be due to the difference in the study area and the study participants where the study done in Addis Ababa was among women which could underestimate the level of fertility intention.

The odds of having fertility desire was higher among PLHIV who had no children than those who had one or more children. It is similar toother studies done in Ethiopia; Addis Ababa [25], Finoteselam [24], Fitche [20], Tigray [22] and Nekemte [26] and in other African countries; Nigeria [27], Malawi [28], Uganda [29, 30] and South Africa [31, 32]. In addition to this, fertility desire was higher among single PLHIV as compared to those who had dissolved their marriage. This might be attributed by the societal belief where a child is thought as a precondition to have a joyful life; such as Ethiopia. Moreover, in some African countries like Kenya, especially among HIV positive women, having a child is considered as a means of stability of marriage/ union, meeting a desired family size, wantto have a biological child and the socio-cultural pressures were the most important reasons forced them to desire a child [33]. Unmarried individuals might have a higher odds of fertility desire as they might be in the younger ages of their reproductive life and they might not have a child or do not achieve their desired family size too. And therefore, while providing services a special attention should be given to their sexual and reproductive health needs.

People living with HIV who had faced community pressure for having a child had a higher odds of fertility desire as comparedto their counterparts. This finding is consistent with other studies done in Ethiopia [20], Uganda [34] and South Africa [35]. Furthermore, PLHIV whose partner had fertility desire were more likely to desire babies; this is supported by a studydone in Addis Ababa [25], SouthWollo [36], Fitche [20], Nekemte town [26], Uganda [19] and South Africa [32]. This is obviously true in a community or society where childbearing had social and cultural value; it is a means of maintaining identity and social status which works in most African countries. This might be due to the fact in these societies childless individual's or couples will face social disapproval and intense pressure from family, spouse and friends too. And thus, childbearing, especially PLHIV, might re-establish a higher self-esteem and to restore a sense of normal family life and health. Moreover, family planning as well as fertility related services should not only focus on a woman, rather it should address both partners.

The odds of having fertility desire was higher among PLHIV who had a discordant sexual partner which is supported by studies done in Ethiopia; Fitche [20], Uganda [30] and BurkinaFaso [37]. The world is full of controversies; so far the life of HIV serodiscordant couples is under this umbrella where one scarify for partner's interestto maintain their relationship [30]. Under this circumstance, couples might be forced to have a child from their beloved partner and/ or the societal norms and customs with regard to childbearing might influence them. At this point it is the responsibility of the healthcare provider to provide necessary health information; such as about fertility, vertical transmission of HIV, mother to child transmission of HIV, complications that will arise during pregnancy, etc. to make informed voluntary and responsible decisions about their reproduction.

Duration since HIV diagnosis was significantly associated as PLHIV who were diagnosed before nine years were more likely to have desire of children than those diagnosed within three years. However, this finding is in contrary to the study done in Fitche Hospital, Ethiopia [20] where PLHIV since when the duration of HIVdiagnosis was made withinone yearhad higher odds of fertility desire as compared to those who knew their status before four years. Furthermore, PLHIV who had a perceived improved health statuswere more likely to desire forchildren than those who had no any change and this is supported by other studies where a self-rating improved overall personal health status and physical functioningwere associated with the increased in fertility desire [5, 17, 38]. In this case the PLHIV might be under ART follow up and care for a long period of time and thus will have an improved health status; i.e., an increased in the CD4 cells, which is a surrogate measure of a stronger immunity and a better health status, which enable them to decide on fertility desire in the future. In addition to this, health care providers might advise their clients on the efficacy of PMTCT and the timely practicable options for HIV prevention rather than emphasizing the risks associated with it.

The odds of having fertility desire was higher among PLHIV who discussed about sexuality, fertility desire and family planning with an ART provider as compared to those who didn't have discussion. This is in line with a study done in Finoteselam Hospital, Northwest Ethiopia [24]. This could be due to the fact that ART providers might advise their clients on the growing issues or concerns during pregnancy, delivery and child feeding practices, the current available options of HIV prevention including PMTCT service and the like to make a responsible voluntary decision about their reproduction. On the other way round, due to the societal culture related to childbearing, PLHIV might push the ART provider to approve their desire and the necessary and appropriate measures they should take.

5. Conclusion

Nearly half of the PLHIV had reported fertility desire in the future. In this study a perceived improved health status, faced partner and community pressure to have a child, had

no live birth and discussed about sexuality, fertility desire and family planning with ART provider were significantly associated with fertility desire. Therefore, there should be a concerted effort; i.e., health care providers and the concerned bodies should work together in strengthening the reproductive health needs of PLHIV along with HIV care and support so that they may decide freely and responsibly on their own reproductive health matters.

Abbreviation

ART	Assisted Reproductive Technology
ARV	Anti Retro Viral
CI	Confidence Interval
HA	Highly Active Antiretroviral Therapy
HBC	Home Base HIV Care
HIV	Human Immune Deficiency Virus
LFTU	Left to Follow Up
MTCT	Mother to Child Transmission of HIV
OR	Odds Ratio
PLWH	People Living with HIV/ AIDS
PMTCT	Prevention Mother to Child HIV Transmission
SPSS	Statistical Package for Social Sciences

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Author Contributions

Mohammed Hassen: Conceptualization, Formal Analysis, Funding acquisition, Investigation, Methodology, Software, Supervision, Writing – original draft

Teketo Kassaw: Project administration, Software, Validation

Assefa Taresa: Supervision, Validation

Conflicts of Interest

The authors declare no conflicts of interest.

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