Determinants of HIV test uptake among women of reproductive age group attending to Hargeisa group hospital, Somaliland, Somalia

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Abstract:
Background: The Human Immunodeficiency Virus epidemic continues to be a major public health problem worldwide. It has become one of the world's serious health and development challenges. In sub-Sahara Africa women accounted for 56% of new HIV infections among adults in 2016. HIV testing is the first step clients take towards taking responsibility for the protection of themselves and others. By taking the voluntary step, they accept their vulnerability to HIV infection. In Somaliland the prevalence of HIV test uptake among women of reproductive age was 2.7% in 2011.Where 39,543 women attending ANC services in facilities offering PMTCT services in Somaliland, only 9,101 (23%) were tested for HIV and 5,869(0.06%) of them were HIV positive. In Somaliland the prevalence of HIV test uptake among women of reproductive age was 2.7% in 2011.
Method: institutional based unmatched case control study was conducted from February 5 to March, 26, 2017. 88 Cases were women during reproductive age who were tested for HIV. 176 Controls were women during reproductive age and never tested for HIV. Descriptive and frequency statistics was done.
Bivariateandmultivariateanalysiswasalsoperformedusinglogisticregressiononspssversion21.softwarein order to determine factors associated with HIV test.
Results: HIV test uptake was associated with; having less than three number of children (AOR=4.67, 95% CI=2.12, 10.29), knew on available of antiretroviral therapy (AOR=5.6, 95%CI=1.19, 26.28), perception about test confidentiality (AOR=0.09, 95%CI=0.02, 0.51), and fearing of stigma (AOR=0.05, 95%CI=0.005, 0.24) after the effect of other significant variables were controlled.
Conclusion and recommendation:
This study has identified; Source of information about HIV /AIDS, number of children, knowing availability of antiretroviral therapy, perceived test confidentiality and stigma as determinants of HIV test uptake. Health care providers should motivate client to be tested for HIV by giving them adequate information about HIV/AIDs. Stigma is deeper rooted problem in community so that Intensive campaign and efforts against stigma should be taken in the community level continuously in order to root out stigma barrier.

Key words: HIV test uptake, case control study, Somaliland.

1.1. Background information

HIV testing is the first step clients take towards taking responsibility for the protection of themselves and others. By taking the voluntary step, they accept their vulnerability to HIV infection (1). HIV testing uptake is a major pillar of HIV prevention and is recognized as playing critical roles in the prevention and early diagnosis of HIV, and also as an entry point of care in prophylactic and therapeutic interventions also provides clients with a chance to learn and accept their HIV status, in a confidential setting(2).

HIV counselling and testing (HTC) is an integral component of HIV preventive strategies.
Studies using mathematical models have revealed that about 50% of new HIV infections are from HIV-infected persons who are unaware of their HIV status, making it more difficult to prevent the spread of the infection (3). While early diagnosis and treatment are associated with good treatment

outcomes (4), delayed diagnosis and treatment increase the disease burden and represent missed opportunities for prevention (5). Knowing one's HIV status may influence change in personal behavior, a critical part of efforts to prevent HIV (6). Individuals tested positive for HIV are likely to be linked to HIV care and treatment. Among the benefits of linking patients in HTC are reducing mother-to-child transmission, preventing uninfected partners from becoming infected, improving the quality of life, reducing morbidity and mortality related to opportunistic infections and reducing the frequency of hospitalizations (7). High cost associated with the management of HIV-infected patients underscores the importance of preventive efforts in addressing HIV(8).

The Human Immunodeficiency Virus epidemic continues to be a major public health problem worldwide. It has become one of the world's serious health and development challenges (9).In sub-Sahara Africa women accounted for 56% of new HIV infections among adults in 2016(9).harmful gender norms and inequalities, insufficient access to education and sexual and reproductive health services, poverty, food insecurity and violence, are at the root of the increased HIV risk of women, In addition to suffering from gender inequalities, discrimination and violence can also increase their vulnerability to infection(9).

HIV is the leading cause of death of women of reproductive age (9, 10).The global increase in HIV infection and expanding knowledge of HIV management has underlined the development and importance of HIV counseling and testing worldwide. According to UNAIDS 2016 global AIDs update approximately 54% of people living with HIV is in need of treatment, many of whom do not know their HIV status (9). 10 recent national population-based surveys in sub-Saharan Africa, the median percentage of people living with HIV who know their HIV status is below 40% (11). Somaliland and across other developing countries there is provision of free antiretroviral treatment (ART) as an incentive to test, still HTC services utilization is low and it has been linked to be associated with socio-demographic and socioeconomic factors, proximity to clinics, availability of rapid testing and outreach services and lower levels of HIV/AIDS stigma, poor physical facilities, long waiting times, lack of available treatment, the need to give bribes to receive care and discriminatory attitudes of healthcare staff(12). Due to lack of the health information system, HIV statistics for Somaliland are therefore scanty. According to WHO surveillance data indicate that HIV prevalence in Somaliland was 1.3% in 2007 and 1.1% in 2010(13). Integrated bio-behaviour surveys conducted in Hargeisa found HIV prevalence of approximately 5% among female sex workers in 2010(14).The HIV Prevalence is disproportionately on the increase in Hargeisa from 1999, 0.7% to 2007, 1.6% In Hargeisa (15). The recent (2014) HIV ANC sentinel surveillance shows a slight reduction in HIV prevalence among pregnant women with a mean prevalence of 0.8% in Somaliland(16).although the level of HIV prevalence in Somaliland is considerably lower than neighbor countries, this should not be a reason for complacency considering that the usual high risk factors explaining the introduction and the spread of HIV like with high HIV prevalence in neighboring countries, porous borders and consequent cross-border mobility, this vulnerability is compounded by low knowledge on HIV transmission and prevention(17) It is estimated that in 2014. 9,531 adults individual were living with HIV/AIDs and 51% of them were women of reproductive age. In same year 636 individual were newly infected in Somaliland while 318 of them were women of reproductive age and 613 were dead for HIV/AIDs while 300 of them were women of reproductive age group(16). Testing for HIV/AIDS, counselling during ANC visits and proportion of women who receive the test results remain very low at 2.7% (18).Where 39,543 women attending ANC services in facilities offering PMTCT services in Somaliland, only 9,101 (23%) were tested for HIV and 5,869(0.06%) of them were HIV positive (19). HIV related stigma and discrimination still deters many Somalis from utilizing HIV prevention services or from being tested for HIV(18). Missed opportunities for HIV screening of pregnant women are perilous; knowing a woman's HIV status and enrolling her into available PMTCT services can help to reduce vertical HIV transmission(20). In Somaliland an integrated prevention, treatment, care and support strategic

plan and a plan to build human capacity to support the national antiretroviral therapy programme have been developed with support from WHO. It must be noted that increasing access to therapy does not necessarily halt the epidemic since therapy only addresses those already affected. Interventions to prevent HIV spread in the first instance must be given priority attention before the epidemic escalates (12). Few previous studies which done on knowledge and attitude practice of HIV/AIDs, none of these few studies focused on women of child bearing age. The objective of this study is to determine factors associated with HIV/AIDs test uptake among women of reproductive age group attending to Hargeisa group hospital.

METHODS AND MATERIALS

4.1. Study area and period.

This study was conducted in Hargeisa group hospital at Hargeisa capital city of Somaliland from Feb 15- to March 26, 2017.Hargeisa city has a population of *around 760,000 residents* as of 2015(44). The urban area occupies 65 square kilometers (25 sq mi), with a population density of 11,600 inhabitants per square kilometer (30,000/sq mi). Hargeisa group hospital is the only public hospital in Hargeisa city, this hospital provides all referral hospital facilities including integrated HIV prevention care, treatment and support services since 2004(45)This study was conducted from 5 February to 26 Mach, 2017.

4.2. Study design

Health facility based unmatched case control study was conducted

4.3. Study population:

Cases: All women who were aged between 15-49 years attending to Hargeisa group hospital during study period and who were tested for HIV was selected as cases irrespective of their pregnancy.
Controls: All women who are aged between 15-49 years coming to Hargeisa group hospital during study period and who were never tested for HIV was select as control group.

4.4. Sample size determination

Sample size was determined using EPI INFO version7.1. The formula for the difference between two population proportions by considering one variable assumed to bring difference in two groups, in this study education is the variable Used to calculate the sample size with estimated exposure among cases 2.25 AOR and 40% among controls with 80% power and 95% confidence interval and 1:2 ratio for cases to controls.
Therefore, after adjusted 10% of non-response rate for both cases and controls the required total sample size was 264
Cases: 88
Control: 176

Table1. Using the EPI-INFO version 7.1. The computed possible sample sizes were

variables	AOR	% of controls exposed	Number of cases	Number of controls	Total sample size
Education	2.25	40%	80	160	240
Literacy	4.25	8%	51	102	153
HIV knowledge	3.40	20%	42	84	126
Transmission knowledge	3.5	30%	36	72	108
Stigma negative	4.1	27%	30	60	90

After calculated many factors which are vital for HIV testing uptake in Somalia and other countries with same context. Maximum sample size was obtained study from Ethiopia which about factors determining acceptance of VCT among pregnant women attending ANC clinic at army hospitals in Addis Ababa, Ethiopia (39).

4.5. Sampling procedure

4.5.1. Selection of cases

Women of reproductive age group attending to Hargeisa group hospital and has been tested for HIV were selected from deferent department of the hospital based on their availability during study periodand were interviewed until required sample size completed.

4.5.2. Selection of controls

Women of reproductive age attending to Hargeisa group hospital and who were never tested for HIV were selected from different department of hospital based on their availability during study period and were interviewed until required sample size achieved.

4.6. Eligibility criteria

4.6.1. Inclusion criteria

Cases: - women who were aged between 15-49 years and attending to Hargeisa group hospital and were tested for HIV/AIDs.

Control: -women aged between 15-49 years attending to Hargeisa group hospital during study period and who were never tested for HIV.

4.6.2. Exclusion criteria

- Women, who were unable to hear, speak & communicate.
- Women who were critical ill at the time of the study.

4.7. Data collection instruments:

Data was collected from study subjects with face to face interview by using structured questionnaire from both case and control group attending to Hargeisa group hospital after they finished their attending purpose from 5 February to 26 Mach, 2017.

4.8. Variables

Dependent: -HIV test uptake (tested, untested)

Independent:

- Socio-demographic (age, marital status, education, occupation, income, No children, polygamy)
- Individual related factors (test confidentially, Having ANC in recent birth, awareness of ART, Reason for (tested &not tested), and knowledge about HIV).
- Societal factors associated with HIV test uptake.

4.9. Data collection procedure

Women of reproductive age who were attending to Hargeisa group hospital during study period and fulfilled inclusion criteria were interviewed.

Two supervisors one of them were clinical officer while other one were clinical nurse from their institution with experience in HIV/AIDS care and four trained secondary school students (4 females) were collected data from study subject. The responsibility of the data collectors was to fill questionnaires after obtaining verbal consent of the subjects. The supervisors provide all items necessary for data collection on each Data collection day, checking filled questionnaire for completeness, solve problems raised during data collection.

4.10. Data quality control

Both the interviewers and supervisors were trained for two days on the objective and methodology of the research, data collection and interviewing approach. The questionnaire was translated to Somali for sake of interview and back translated into English to see the consistency.

Pre tested was conducted in 5% of the samples in the same hospital for completeness, consistency and applicability of the instruments and was ratified accordingly. At the time of data collection filled questionnaires checked for completeness and consistency of information by the supervisors on daily basis.

4.11. Data processing and analysis

Data was checked, cleaned and entered in to EPIDATA 3.1 version software, then was exported to SPSS software version 21 for analysis.

Descriptive statistics was used to describe the frequency of the samples. The result of the descriptive statistics was expressed as percentage and frequency. Association between independent variables and dependent variables was analyzed first using bivariate analysis to identify factors which are associated with HIV test uptake. All explanatory variables those associated with the outcome variable in bivariate analysis with p-value of less than 0.25 were included in the initial logistic models of multivariable analysis. The crude and adjusted odds ratio together with their

corresponding 95% confidence intervals was computed. A P-value < 0.05 is considered to declare a result as statistically significant in this study. The result was presented in text, tables and graphs based on the types of data.

4.12. Operational definition

Women of reproductive age group: women between 15-49 years old.

Knowledgeable about HIV/AIDS:respondents were asked 24 question related to mode of transmission, prevention and correct conception of HIV/AIDs. The responses were computed by give "1" correct answer and "0" incorrect answer. Average Score of knowledge were 20. Participants with average score of 20 and above were considered knowledgeable.

HIV related stigma: refers to negative beliefs, feelings and attitudes towards people living with HIV, their families and people who work with them.

Stigma +ve= individuals with score of 3 and less than from 10 of total average of stigma.

HIV related discrimination: refers unfair and unjust treatment of someone based their real or perceived HIV status. And it affects family members and friends, caregivers who care PLWH. An action or treatment based on stigma and directed towards the stigmatized.

Discrimination +ve = participants with score 4 and above from 13 total average of discrimination was considered discrimination positive.

4.13. Ethical consideration

Before the study begins ethical clearance was obtained from the ethical committee of Jimma University. Official permission was secured from ministry of health of Somaliland as well as permission to conduct study from hospital administration. The respondents were informed about the objective and purpose of the study and verbal consent were obtained from each respondent. No question was asked about their serostatus Confidentiality of the information assured by omitting names of study subjects from the questionnaire and maximum effort made to maintain privacy of the respondent during the interview.

RESULT

5.1. Description of study participants

A total of 88 cases and 176 controls were included in this study with over all response rates of 100%. Majority of HIV tested as well as never test was between age of 20 and 29 years. The mean age of cases and controls were 25.9±5.7 and 25.5±3.6 years respectively.

Regarding to educational level 35(39.8%) of cases and 58(33%) controls were secondary school educated. Concern to respondents occupation 52(59.1%) of cases and 68(36.7%) controls were house wives. The majority of cases 66(75%) and almost half 86(48.8%) of controls were married. Among those who are married, 40(58.8%) cases and 58(63.1%) controls are monogamy. Median income of cases and controls is 150$ and 250$ respectively. According to the age at first marriage 62(82.3%) cases and 78(78%) controls were ever married, their age of first marriage were between19 to 24. Concerning to number of children 19(52.4%) of cases and 67(69.1%) controls had greater than three number of children (Table 2).

Table 2.Socio-demographic characteristic of women attending to Hargeisa group hospital, Hargeisa, March 2017

Variables	Categories	Cases(N=88)	Controls(N=176)	Total (%)
Age in year	<20	4(4.6)	21(11.9)	25(9.5)
	20-29	69(78.4)	104(59.1)	173(65.5)
	30-39	15(17)	51(29)	66(25)
Educational status	Informal education	5(5.7)	22(12.5)	27(10.2)
	Primary	34(38.6)	57(32.4)	91(34.5)
	Secondary	35(39.8)	58(33)	93(35.2)
	Tertiary	14(15.9)	39(22.1)	53(20.1)
Occupation	Job-less	4(4.5)	59(33.5)	63(23.8)
	Farmer	2(2.3)	7(4.1)	9(3.4)
	Merchant	19(21.6)	19(11.1)	38(14.4)
	Employer (govn/NGO)	6(6.8)	8(4.6)	14(5.3)
	House wife	52(59.1)	68(36.7)	120(45.6
	Student	5(5.7)	15(8.5)	20(8.1)
Monthly income in (USD$)	No income	12(13.2)	77(43.7)	89(33.7)
	<200	27(31.1)	29(16.5)	56(21.2)
	≥200	48(55.7)	70(39.8)	118(45.1)
Marital status	Single	13(14.8)	75(42.6)	88(33.3
	Married	66(75)	86(48.8)	152(57.5)
	Windowed	4(4.5)	4(2.3)	8(3.1)
	Separate/divorced	5(5.7)	11(6.3)	16(6.1)
Polygamy (N160)	Yes	28(41.2)	34(36.9)	62(38.7)
	No	40(58.8)	58(63.1)	98(61.3)
Age of firs marriage	<19	13(17.3)	17(17)	30(17.1)
	19-24	62(82.3)	78(78)	140(80
	25-30	0	5(5)	5(2.9)
NO of children	<3	48(71.6)	30(30.9)	78(47.6)
	≥3	19(52.4)	67(69.1)	86(52.4)

5.2. **Individual related factors.**

All cases and controls heard about HIV/AIDs. Majority of cases57 (66.3%) and control 137(79.7%) heard about HIV/AIDs from health care workers. Out of those mother who gave birth last two years 59(67.1) of cases and 52(29.5) of controls were attended antenatal care during their last pregnancy. Regarding to awareness of ART availability 67(76.1%) cases and 65(36.9) controls were knows about availability of antiretroviral therapy. Majority of cases72 (81.8) and 77(43.7) of controls perceived that health care providers will keep HIV test status confidential. Large number of cases83 (94.3%) as well as control 142(80.7%) were agree that test for HIV/AIDs is important. About 54(65.9) of cases and 119(71.6) of controls were perceived that they are not at risk for HIV/AIDS.

Majority of cases 59(67.1%) and 102(57.9%) controls were knowledgeable according average score of knowledge (Table 2).

Table 3.Individual related factors of HIV test uptake among women of reproductive age attending to Hargeisa group hospital, Hargeisa, march2017.

Variables	Categories	Cases (N=88)	Controls (N=176)	Total (%)
Source of information on HIV	Friends, neighbors	7(8.1)	28(16.3)	35(13.2)
	Mass media*	57(66.3)	137(79.7)	194(73.5)
	Health workers (facility)	24(25.6)	11(4.1)	35(13.3)
ANC in recent birth	Had birth and ANC	59(67.1)	52(29.5)	111(42.1)
	Had birth but no ANC	6(6.8)	36(20.5)	42(15.8)
	Had no birth	23(26.1)	88(50.0)	111(42.1)
ART awareness	Yes	67(76.1)	65(36.9)	132(50)
	No	21(23.9)	111(63.1)	132(50)
Perceived test confidentially	Yes	72(81.8)	77(43.7)	149(56.4)
	No	16(18.2)	99(56.3)	115(43.6)
Test uptake importance	Yes	83(94.3)	142(80.7)	225(85.2)
	No	5(5.7)	34(19.3)	39(14.8)
Self-perceived risk	Yes	28(34.1)	50(28.4)	78(29.6)
	No	54(65.9)	119(71.6)	173(70.4)
When person should test for HIV	Any time	50(56.8)	101(57.4)	151(57.2)
	During illness	24(27.3)	64(36.3)	88(33.3)
	In doubt	14(15.9)	11(6.3)	25(9.5)
HIV Knowledge	Not knowledgeable	29(32.9)	74(42.1)	103(39.1)
	Knowledgeable	59(67.1)	102(57.9)	161(60.9)

5.3. Descriptions of reasons for test uptake by cases as well as for not being tested by controls

Regard to reason for test uptake 56(65.1%), 12 (14%), 9(10.5) of cases tested for HIV because of pregnancy, voluntarily, blood donation and ordered by health care workers respectively (figure 2).

Similarly out of the total controls 65(37.8%),41(23.8%),34(19.8%),18(10.5%),14(8.1%)of controls their reason for not being tested is partner and self-trust, fear of stigma, do not know about it, do not belief it will help and not knowing where to get the service respectively (see figure 3).

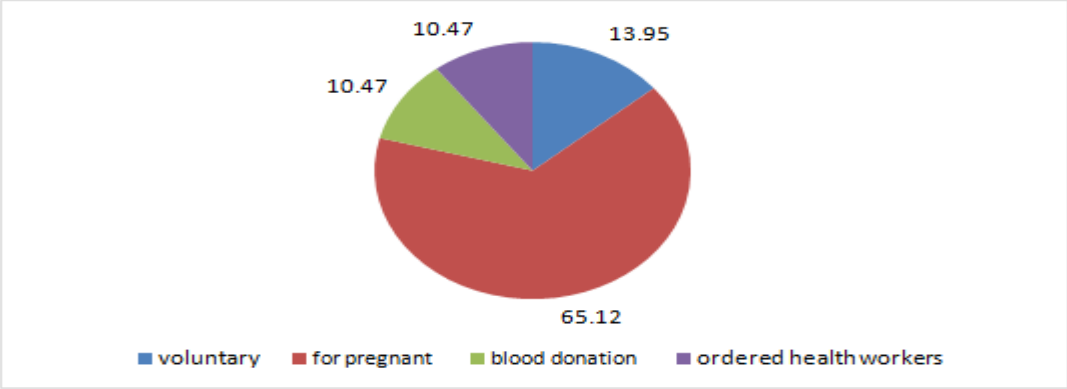

Figure 2: Main reason for test for HIV by cases who attended to Hargeisa group hospital.2017

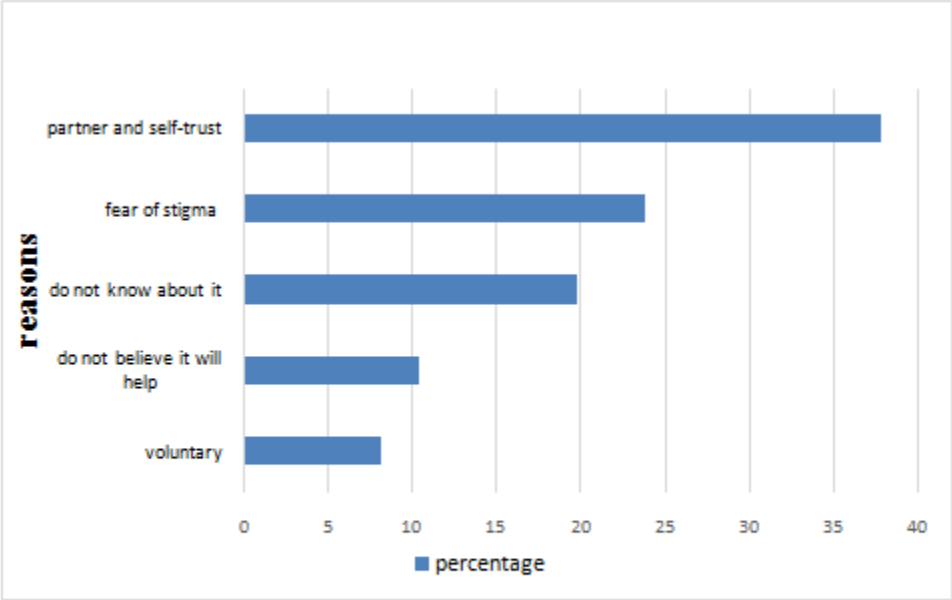

Figure 3: Main reason for not being tested for HIV by control attended Hargeisa group hospital.2017

5.4. Societal related factors

Large number of the study participant score with stigma negative 84(95.4%) cases and 111(63.1%) control, likewise almost similar number of cases as well as controls were score with discrimination positive 64(74.4%) cases and 131(76.2%) of controls (table3).

Table 4: Societal related factors associated with test uptake among women attending to Hargeisa group hospital, Hargeisa, March 2017.

Variables	Categories	Cases(N=88)	Controls(N=172)	Total (%)
Stigma	Stigma positive	4(4.6)	65(36.9)	69(26.1)
	Stigma negative	84(95.4)	111(63.1)	195(73.9)
Discrimination	Discrimination positive	24(27.2)	45(25.5)	69(26.1)
	Discrimination negative	64(72.8)	131(76.2)	195(73.9)

5.5. Determinants of HIV test uptake among women of reproductive age attending to Hargeisa group hospital.

In the bivariate analysis factors which shows association (at p-value<0.25) with HIV test uptake and entered in to multivariate analysis were. age, education, occupation, income, marital status, age of first marriage, number of children, ANC in recent birth, awareness of antiretroviral therapy, test confidentiality, when person should test for HIV, sources of HIV/AIDs information, knowledge about HIV/AIDs, stigma and discrimination.

In multivariate analysis the following factors were independent predictors of HIV test uptake with p-value<0.05.Women who has less than three children were more likely to be tested for HIV than women with three or more children (AOR=4.67, 95%CI=1.12, 10.29). Respondents who heard HIV

information from health workers were 5.9 more likely to be tested for than those heard from mass media (AOR=5.9, 95%CI=1.07, 32.67).

Respondents who knew availability of antiretroviral therapy were 5.6times more likely to be tested than those do not know (AOR=5.6, 95%1.19, 26.28). Participants who perceived that health care providers will not kept test confidentially were less likely to be tested than those perceived that they will kept test confidentially (AOR=0.090, 95%CI=02, 0.51). Respondents with stigma positive were less likely to be tested for HIV than those with stigma positive (AOR=0.05, 95%CI=0.005, 0.24). (table7).

Table 7: Determinants of HIV test uptake among women of reproductive age attending to Hargeisa group hospital. Hargeisa, march.2017

Variables	Categories	Cases (N=88)	Controls (N=172)	COR(95%CI)	AOR(95%CI)
NO of children	<3	68(77.3)	107(60.8	2.25(1.24, 4.08)*	4.67(2.12, 10.29)*
	≥3	20(22.7)	69(39.2)	1	1
Source of HIV information	Mass media & others**	64(74.4)	165(95.9)	1	1
	Health workers (facility)	22(25.6)	7(4.1)	7.55(3.06, 18.67)	5.9(1.07, 32.67)*
ART awareness	Yes	67(76.1)	65(36.9)	6.57(3.58, 12.07)	5.6(1.19, 26.28)*
	No	21(23.9)	111(63.1)	1	1
Test confidentially	Yes	72(81.8)	77(43.7)	1	1
	No	16(18.2)	99(56.3)	0.14(0.08, 0.27)	0.09(0.02, 0.51)*
Stigma	Stigma positive	4(4.6)	65(36.9)	0.04(0.01, 0.18)	0.05(0.005, 0.24)*
	Stigma negative	84(95.4)	111(63.1)	1	1

*significance at P.Value <0.05

DISCUSSION

In sum, this study has identified, women's number of children, knew about availability of antiretroviral therapy, women's perception about test confidentiality and stigma as determinants of HIV test uptake.

Women who had less than three of children were 4times more likely to be test than women with three and more than number children. This finding is against with other study findings done in Kenya and Botswana which revealed as number of live birth increase likelihood of test uptake will increase(26, 27).

But these findings supported by study conducted in Uganda and study in Gambella region Ethiopia; study in Mbale district, Uganda. HIV testing was significantly Lower in pregnant women with two and more live births in the past(28). And other study conducted in Gambella region, Ethiopia which revealed pregnant women who had 2 or 3

live births were more likely to refuse HIV testing as compared to those women who had no live births in the past(29).

Regarding to the source of HIV information, this study reveals women who heard HIV information from health care workers were about 5.9times more like likely to be tested than those heard information from mass media and other source rather than health workers. The possible explanation of this findings may be health workers had increase HIV awareness during HIV campaigns or at time individuals visiting health facility that will give chance to participants to be more exposed to health service, another explanation for this might be two way communication is very important than one way communication. This finding similar line study conducted in Botswana which showed that caregivers had increased HIV awareness, thus facilitating the taking of HIV test(27).

This study revealed individuals who perceived that the health care workers will not kept test result confidential were less likely to be tested than those who perceived health workers will kept test result confidential. This finding is consistent studies carried out in Botswana, Mali, Uganda and Tanzania showed the perception of the clients is that the health care workers or the centers would not keep the results of their HIV tests confidential affected utilization of VCT (31-34).

This study showed Participants who know about availability of antiretroviral therapy were 5.6 times more likely to be tested than who don't know about it. This findings is supported studies done in Botswana which showed that the introduction and free availability of ARV therapy to citizens in Botswana through a national ARV program was followed by a substantial increase in the utilizing the VCT services(46). And other study revealed trend in a Retrospective review of records at a local hospital which was a major testing site. The records showed that once treatment became available locally, the number of HIV tests performed increased fivefold(47).

Stigma was associated with testing uptake where individual scored fear of stigma positive were less likely to be test than those with stigma negative. This findings consistent studies done in Botswana and other Africa(27, 43).

Conclusion

This study was conducted among women of reproductive age attending Hargeisa group hospital to determine factors associated with HIV test uptake among them. Study has reached following conclusions.

- Women who had three and above number of children were less likely to be tested than those who had less than three children.
- Women who heard HIV information from health workers (facility) were about 5 times more likely to be test after comparing whose health other sources rather than health workers or health facility.
- Individuals who were aware availability of antiretroviral therapy were about 6.5times more likely to utilize HIV test than those who do not have such awareness.
- Women who perceived that health care providers will not kept HIV test confidential were less likely to be test than those perceived test will.
- Respondents who were not fear stigma were more likely to undergo test than those feared stigma.

Recommendation

Based on the result of the finding the following recommendations were forwarded for HIV policy makers in Somaliland and ministry of health:

Getting HIV information from health workers is vital factor that influencing client to be test for HIV so that health care providers should spread HIV information and there should be close contract between them and the clients.

Campaigns against HIV/AIDs should include widely availability of ART in order to enhance community awareness of antiretroviral therapy which will influence to undergo test uptake.

Stigma is deeper rooted problem in community so that Intensive campaign and efforts against stigma should be taken in the community level continuously in order to root out stigma barrier.

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