Delayed Presentation for ART Care among People Living with HIV in Public Hospitals, Harari Region, Ethiopia

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Abstract

Background: In the world HIV epidemic is a major challenge to global health. There were approximately 33 million people living with human immune-deficiency virus (HIV) and 2.7 million new infections in 2007. Any delay in receiving medical care after the first positive test for HIV prevents patients from receiving the medical therapies that may preserve their immune system and reduce the risks for serious disease-related complications.

Objectives: To identify health system level and patient-related factors associated with delayed initial medical care for HIV infection.

Methods: A multi-centered hospital-based unmatched case control study was conducted in the hospitals of the Harari region. The study population was sample cases and controls from ART patients attending care in the two public hospitals in Harar.

Results: Male respondents were 7.19 times more likely to delay HIV care than female respondents [OR= 7.19; 95% CI: 1.279-8.447]. People who were living in rural areas were 1.99 times more likely to delay care for the HIV infection than those living in urban areas [OR= 1.99; 95% CI: 1.01-3.92]. People who said the waiting time to see a doctor was "fair" were 0.18 times more likely to present late for

HIV care than who said the waiting time was "not fair" [OR= 0.18; 95% CI: 1.928-44.824]. People who did not know where to get ART were 2.45 times more likely to be present late for HIV care than those who knew where to go for care [OR= 2.45; 95% CI: 1.03-5.82].

Conclusions: Sex, residence, knowledge of where to get ART care and the waiting time to see a doctor were independently associated with late presentation for HIV care. Easy access to HIV testing in the community and health education campaigns encouraging sero-positive persons to seek treatment immediately are recommended. Providing more information about ART in the community needs to be conducted by health care organizations providing these services.

Introduction

33.2 million people were living with HIV and 2.5 million became newly infected in the world in 2007. Approximately 2.1 million people lost their lives to AIDS in that year. Not only does the epidemic cause death and human suffering, it has also become a major cause of social and economic instability. The introduction of ART has offered hope to people living with HIV and has been credited with improving quality of life and reducing mortality. However, access to ART has always been a problem in developing countries, where only 28% of the 7.1 million people who need treatment is receiving it. Even the increased financial resources have not brought the number of patients on ART to the level desired. The cost of drugs does not seem to be the most important constraint of access to ART as many of the drugs are provided free of cost to eligible patients through the combined efforts of countries and bilateral and multilateral partnerships. (1)

The first evidence of the HIV epidemic in Ethiopia was detected in 1984. Since then, AIDS has claimed the lives of millions of Ethiopians and has left behind hundreds of thousands of orphans. The government of Ethiopia has taken several steps to stop the spread of the disease and to increase access to HIV care, treatment and support for persons living with HIV (PLWH). (2)

Statement of the Problem: According to FHAPCO, in 2007, the single point estimate for adult prevalence of HIV/AIDS in Ethiopia was estimated to be 2.1%, of which 7.7% was urban and 0.9% was rural. The estimated number of people living with HIV was 977,394, of which 258,264 were in need of ARV treatment. Of those who need access to ART, Children under 15 accounted for 15,716 (6.1%). Of those who need access to ART, it was projected that by 2010, 397,818 people would need ART of which 26,053 (6.6%) would be children under fifteen.

Giving free ARV service began in January 2005 and public hospitals started providing free ARVs in March 2005. In scaling-up the ART services in the country, health centers started to deliver HIV care and ART in June 2006. As of March 2007, only 32% of PLWH in need of ART was reached. This called for increased strengthening and decentralizing of HIV care and ART services to the primary health facilities.

Many patients with the HIV infection come for care late in the course of their disease. Coming late for treatment is associated with a poor prognosis, including worsened morbidity and shortened survival. Coming late for treatment limits patients from obtaining the maximum benefits of being screened for co-infections including tuberculosis and sexually transmitted infections, receiving timely

antiretroviral therapy, and benefiting from educational, psycho-social and prophylactic interventions that are more effective when implemented earlier and that can prevent further infections. (3, 4)

Despite the proven benefits conferred by early HIV diagnosis and treatment delays in HIV medical care are common and these delays are not fully understood. It is important to analyze socio-demographic variables among study subjects to identify parameters that may improve early diagnosis and timely initiation of ART. This would help to improve the management of the disease. It is important to investigate the barriers to access treatment among HIV infected people. (5,6)

Objectives

General Objective:
1. To assess factors associated with delayed ART care among PLWH in public hospitals in Harar.

Specific Objectives:
1. To identify socio-demographic and behavioral factors associated with delayed initial medical care for HIV infection.
2. To examine health care system factors associated with late presentation to primary care after a sero-positive test result for HIV.
3. To determine the awareness levels of ART patients about both ART and HIV/AIDS prior to ART initiation.
4. To describe VCT service use patterns and sexual behaviors prior to ART initiation by ART patients.

Methods

Study Area and Period: The study was carried out in the public hospitals of Harari Regional State. The study was conducted from February to April 2010.

Study Design: A multi-centered, hospital-based, unmatched case-control study design using a quantitative data collection method was employed.

Study Population: The study population for the cases were all HIV/AIDS patients registered with CD4 cell counts of <100/ml. The controls were HIV/AIDS patients registered in the hospitals with CD4 cell counts of ≥100/ml during initiation of ART in the hospitals.

Variables

Independent Variables: Socio-demographic and economic variables which included ethnicity, sex, age, length of time since HIV diagnosis, area of residence, estimated distance to clinic, income, and sickness status when first tested for HIV were some of the independent variables.

Health care system variables included trust in the medical provider, availability of drugs and supplies and any additional resources for ART. Contextual factors that affect ART initiation included alcohol consumption and cultural and religious factors. Knowledge and beliefs of the patients about HIV/AIDS and ART were also investigated.

Dependent Variable: The delayed seeking of medical care for HIV sero-positive was the dependent variable.

Sample Size Determination: The sample size was calculated based on the assumption that education was the major determining factor for ART utilization among HIV patients. To determine the sample size, two proportion formulas for unmatched case–control were used. Based on the assumptions of sample size calculation using Epi-Info Version 3.3.2.0 (Stat Cal), the total study sample size was 274 ART patients. With a 10% contingency for non-response, the final sample size was 302. Of these, 151 were late presenters and 151 were early presenters.

Assumptions: C.I = 95%, α = 0.O5; 1-β = 80 %; r = 1 (control: case = 1:1); OR = .49 The prevalence of non-delayers and delayers was 58.8% and 41.2%, respectively.

Sampling Procedures: The cases and the controls were selected based on their CD4 cell count registration. The patients attending ART were included in the study by simple random sampling. The study subjects were distributed proportionally to the hospitals based on the number of patients they were serving during the data collection period.

Data Collection Procedures and Instruments: With the consent of each respondent, data were collected using a structured questionnaire developed after a review of relevant literature. After the subjects were asked for their voluntary participation, B.Sc. or diploma nurses conducted the interviews.

Data Analysis: All responses to the questionnaires were coded and entered into Epi-Info and exported to SPSS for analysis. Cross tabulations were computed to calculate odd ratios, p-values and X^2 for bi-variate descriptive analysis. Bi-variate analysis was conducted first to see the association between factors like socio-demographic

variables and late presentation. Multivariable logistic regression was computed to identify factors associated with ART initiation at a lower CD4 cell count. A multi-variate analysis model was implemented by specific objective analysis. Differences between delayers and non-delayers were compared for relevant categorical and continuous variables using chi-square testing.

Data Quality Assurance: The data collection instrument was a questionnaire and it was developed first in English and then translated into Amharic. It was then translated back into English by different individuals for consistency. Pre-testing of the questionnaire was conducted on patients in a hospital not included in this study. Based on the pre-testing, questions were revised and those found unclear were amended. Training was given by the principal investigator to the data collectors and supervisors on the objectives and processes of data collection. Completeness, accuracy and consistency of the collected data were checked on a daily basis by the supervisors and principal investigator.

Ethical Considerations: The Institutional Research Ethics Review Committee of the College of Health Sciences in Harar campus approved the research proposal. Letters requesting approval for the study were submitted to the hospital officials to obtain their permission. Also, written consent was obtained from each of the study participants. Confidentiality was maintained throughout the study. Anonymity was assured to all patients involved.

Results

Socio-demographic Characteristics: A total of 284 PLWH were selected from the source population attending the hospitals during the data collection period. The response rate was 94%. Of the total study participants, 135 were cases and 149 were controls. PLWH included in the study presented for HIV care in both hospitals during the study period with 69.1% from Hiwot Fana hospital and 30.9% from Jugol Hospital.

Knowledge, Attitudes and Beliefs towards HIV/AIDS and HIV Care: Knowledge, attitudes and beliefs of PLWH towards HIV/AIDS and HIV care before HIV-diagnosis was assessed during the interviews. The findings of this indicated that only 3.7 % of the cases and 8.2% of the controls believed that ART could cure HIV. A total of 96.9% of the cases and 97.9% of the controls said they knew how HIV was transmitted. Overall, the knowledge of the mode of transmission of HIV/AIDS and preventive measures of HIV/AIDS was good among both study groups. Concerning awareness of HIV care, 24.6% of the cases and 32.4% of the controls knew that HIV care existed and they were aware that the care was freely available. Of 284 participants, 72.4% of the cases and 66.7 % of the controls knew a health facility where they could get HIV care before their HIV diagnosis.

Association of ART-related Attitudes and Beliefs with Delayed Presentation for HIV Care: The attitudes towards and beliefs about ART and their relationship with late presentation for HIV care were examined using an eleven item document that assessed ART-related attitudes and beliefs. Of these, four items sought any perceptions that HIV/AIDS was more controllable since the availability of ART, while seven items

sought to measure ART-related risk compensation. In general, the factors assessing PLWH attitudes and beliefs were not associated with late presentation for HIV care (P > 0.05).

Risk Perception Before HIV Testing: Perception of risk of HIV-infection before HIV-diagnosis was assessed during the interviews as well as the reasons why the subjects did or did not feel at risk. Regarding their perceptions of risk, all subjects were asked whether they had perceived having any risky conditions for HIV infection. A total of 22.7% of the cases and 20.9 % of the controls felt at risk for HIV infection and a list of possible reasons was used to identify risk factors for considering themselves to be at risk for the infection.

HIV Testing: Regarding awareness of HIV testing, 46.6% of the cases and 50.7 % of the controls had been aware of existence of VCT and that it was free before their first positive HIV testing. A total of 10.2% of the cases and 13.1% of the controls did have a previous HIV test before HIV diagnosis. Following their HIV diagnosis, 27.6% of the cases and 27.7% of the controls did not disclose their HIV positive status to others apart from health workers.

Possible reasons for non-disclosure of their HIV status to others mentioned in both study groups were fear of HIV-related stigma consisting of fear of losing a partner, their friends and family, children or employment and fear of being rejected. A fear of isolation and expection to experience stress were also reasons mentioned. Among 112 of the cases and 124 of the controls who reported having a spouse or sexual partner, 32.1 % of the cases and 35.5 % of the controls did not disclose their HIV status to their spouse or sexual partner.

The counselling offered at the time of their first positive HIV result was examined. In this study, 97% of the cases and 98.6 % of the controls were satisfied with the counselling provided.

Behavioral Characteristics: In the bi-variate analysis, chewing chat was significantly associated (P= 0.04) with late presentation for HIV medical care.

Health Care Setting: Overall, 87.6% of the cases and 68.1% of the controls had seen a health care provider in the previous year of HIV diagnosis for health problems they faced during this period.

A final model was constructed using a forward logistic regression method. Variables which showed an association with presentation for HIV care in the bivariate analysis, factors which were significantly associated with the time of presentation such as occupational status at the time of HIV diagnosis and their area of residence were included to construct the final model. Moreover, the respondents marital status, living arrangements, ownership of residence, pregnancy status, knowledge that all PLWH were eligible for HIV care, perceptions that ART had many side effects, stigma and discrimination by relatives, awareness of VCT, source of information about VCT, knowing where to get VCT, HIV testing with symptoms or sickness, HIV testing with medical consultation, HIV status disclosure to spouse or sexual partner, HIV status disclosure to families, ever using alcohol, using alcohol in the previous year, having a steady partner at HIV diagnosis, time spent with the steady partner, health-seeking behavior when feeling at risk, prior experience of health care delivery and travel time to the hospital were also included to construct the final model

Table 1. Association of Sex, Residence and Waiting Time and Presentation for HIV Care in Public Hospitals serving the Harari Regional State, April 2010.

Variables	Cases N (%)	Controls N (%)	Crude OR (95%CI)	Adjusted OR (95%CI)
Sex				
Male	40(29.6)	49(32.9)	0.85(0.52-1.42)	7.19(1.27-40.71)
Female	95(70.4)	100(67.1)	1.00	1.00
Residence				
Urban	102(75.4)	119(80.4)	1.00	1.99(1.01-3.92)
Rural	33(24.6)	27(19.6)	5.34(1.13- 25.3)	1.00
Knew Where to Get ART				
Yes	76(72.4)	82(66.7)	1.00	1.00
No	29(27.6)	41(33.3)	1.31(0.74-2.31)	2.45(1.03-5.82)
Waiting Time to See a Doctor is Fair.				
Yes	122(93.1)	143(97.3)	0.38(0.11-1.26)	0.18(0.04-0.82)
No	9(6.9)	4(2.7)	1.00	1.00

In multivariate analysis, male respondents were 7.19 times more likely to present late for HIV care than female respondents, [OR= 7.19; 95% CI: 1.279-8.447]. People who were living in rural areas were 1.99 times more likely to present late for HIV care than those who were living in urban areas [OR= 1.99; 95% CI: 1.01-3.92]. People who did not know where to get ART were 2.45 times more likely to

present late for HIV care than who knew [OR= 2.45; 95% CI: 1.03-5.82].

Discussion

The Centers for Disease Control and Prevention in the United States has set a strategic HIV prevention goal of linking at least 80% of the newly diagnosed HIV persons to HIV medical care within 3 months of diagnosis. This goal was established with two intentions which are to give the newly-diagnosed PLWH all of the clinical advantages resulting from initiation of HIV medical care and to provide PLWH counselling allowing them to learn how to reduce HIV transmission to their spouses, partners or anyone else.

A number of studies in low and middle-income countries have identified high costs, lack of information about ART and stigma as factors that impede PLWH from accessing HIV care. This study sought to identify factors perceived as barriers to accessing HIV care in public hospitals on the basis of surveys among PLWH. In addition, the study aimed to compare the knowledge, attitudes and beliefs of PLWH enrolled in public hospitals on ART. The overall time to presentation for HIV medical care, which is the time between knowledge of infection and entry to care, is multidimensional. Delays may be due to delayed diagnosis after being infected or the delayed linkage to HIV medical care after diagnosis. This study examined the issue of late presentation focused on the delay in seeking HIV care and looked at the reasons for delay.

This study found that sex, place of residence, knowledge of where to get ART care and the waiting time to see a doctor were associated

with the time of presentation for ART care. This is consistent with other studies.

Conclusions

This study examined PLWH decisions to access treatment and perspectives surrounding the circumstances of treatment. Many factors at individual and societal levels negatively affect whether individuals with HIV seek HIV testing in the first place and whether they seek the appropriate care once they are found to be HIV positive. Sex, residence, knowledge of where to get ART care and the waiting time to see a doctor were independently associated with late presentation for HIV care.

Recommendations

There are multiple factors associated with the delay in entering treatment, including delays in HIV testing and delays in accessing care, once a person knows his or her HIV status.

1. In order to improve the ability to identify HIV positive individuals who do not know whether they are infected and give them the care that they need, organizations working in HIV care must improve access to HIV testing. HIV testing must be easily and readily available to all. Care to all PLWH must also be easily and readily accessible to all.

2. Health education campaigns aimed at reaching the entire population can increase HIV knowledge about disease risk factors and can prompt PLWH to present for care as soon as diagnosed.
3. Organizations working with HIV care should pay particular attention to the dissemination of information about HIV/AIDS and ART in their communities, as this lack of information about leads to the continuation of stigma and discrimination.

Acknowledgements

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