

Factors Responsible for Delayed Enrollment for Anti-Retroviral Treatment

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ABSTRACT

Background: Late presentation followed by delayed diagnosis and further delayed initiation of anti-retroviral therapy (ART) increases the risk of opportunistic infections and neoplasms among the HIV infected patients. Furthermore, this leads to not only poor response to therapy but also early death among them.

Methods: An institution based cross-sectional study was undertaken to identify the factor(s) responsible for delayed registration for initiation of therapy among the HIV infected patients with absolute CD4 count <250 cells/ μ L based on self reports. ART naïve adult HIV patients (age \geq 18 years) with baseline CD4 count of <250 cells/ μ L were included in this study.

Results: Most patients 95 (95%) were unaware of the available 'Integrated Counseling and Testing Centres'. Although 13 (13%) respondents had multiple reasons for delayed enrollment, majority 47 (47%) of the delays were due to the physician's failure to suspect and refer them for HIV testing at the earliest opportunity. Other causes include health seeking behavior 13 (13%), fear of stigma 5 (5%), depression 3 (3%), and lack of family support 6 (6%).

Conclusions: Even though delays in pre-ART enrollment have been realized since long, prevention efforts are poor, mostly due to the lack of understanding of the nature of the problem in its social context. Lack of clinical suspicion for HIV infection at the primary and secondary levels of health care still remains the most important reason for the delay. In order to prevent these delays in enrollments, intervention efforts need to be focused on not only the people infected with HIV but the primary health care providers as well, especially the practicing physicians.

Keywords: AIDS; ART; awareness; enrollment; HIV.

INTRODUCTION

Steady progress is being made towards achieving universal access to anti-retroviral therapy (ART) for people living with HIV/AIDS (PLHIV).^{1,2} Current ART guidelines reflect the growing consensus that the early initiation of treatment for HIV is beneficial in terms of virological, immunological and clinical outcome. The Indian National ART guideline has raised the minimum level of CD4 count to 250 cells/ μ L for initiation of ART irrespective of the clinical stage.³ Delayed diagnosis and late entry into HIV care results in early death among HIV-infected patients.⁴ However, late presentation is common in the low and middle-income countries where most individuals are unaware of their HIV status until

they experience symptoms.⁵ Even in India, significant proportion of patients continue to be enrolled in the National ART program with advanced immune suppression leading to increased mortality. This study was designed to identify the factor(s) responsible for delayed enrollment at ART Centre for initiation of first line therapy among people living with HIV/AIDS with absolute CD4 count <250 cells/ μ L.

METHODS

An institution based cross-sectional study was carried out at the ART Center of School of Tropical Medicine (STM), Kolkata, India during the three months period

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from November, 2009 to February, 2010. There are four ART centers in the city of Kolkata in India. The ART Center at STM, the Centre of Excellence in HIV Care, is situated centrally in the city and caters care, support and treatment to the maximum number of PLHIV in the area. All participants were recruited in the study after obtaining written informed consent. The ethical guidelines of the institute ethics committee were followed, and participant confidentiality was respected during and after the study. Delayed enrollment, in this study, has been defined as any new pre-ART enrollment with CD4 cell count less than 250 cells/ μ L, the threshold for initiation of antiretroviral therapy irrespective of the clinical stage as per the Indian National ART guideline, 2009.³ Adult patients, defined as persons 18 years of age or older, attending the ART Center at STM during the study period were selected and included in this study if they had never received antiretroviral treatment, had CD4 count less than 250 cells/ μ L and given consent to be included in the study. The total new pre-ART enrollment during the study period was 472 and 290 of them had presented with CD4 count less than 250 cells/ μ L.

A pre-tested, semi-structured interview guide was used for data collection through one-on-one interviews conducted at the ART Center of STM, Kolkata. Pre-testing was done in a similar sample attending the ART center at STM, 15 days prior to the start of data collection. Data based on self-reports regarding socio demographic status, first HIV testing, knowledge of HIV before testing, approximate time of first engagement in high risk behavior, spouse's HIV status, past medical history including AIDS defining illnesses, history of depression, available family support and details of levels of healthcare facility availed were recorded. Previous medical advices, test reports and treatment records were reviewed with permission of the participant.

All collected data were cleaned for any error and then used for statistical analysis using Microsoft Office 2007 Excel for Windows. Mean \pm one standard deviation were computed for all continuous data. Frequencies (with percentages) were calculated for all the variables. All descriptive data has been categorized into two groups based on the CD4 cell count greater than and less than 100 cells/ μ L.⁴ A descriptive analysis of the self-reported reasons has been undertaken in this study to understand the factors enhancing delayed enrollment in its natural context.

RESULTS

Data obtained from 100 respondents were analyzed. Of them 84 (84%) were male and the rest 16 (16%) were females. The overall mean [\pm Standard Deviation (SD)] age of the respondents was 36 (\pm 8) years, for

male respondents was 36 (\pm 8) years and female for respondents was 33 (\pm 8) years. Among the males, 36 were businessmen, 7 service holders, 14 drivers and 27 were manual laborers. All females were housewives. Education level of the respondents showed that 24 (24%), including all females, were not able to read or write, 42 (42%) of them attained primary level, 28 (28%) attained secondary level and only 6 (6%) of them attained college and above. Out of the 73 married respondents, 7 were separated and 3 were widowed. Thus 63 of the married HIV positive patients were currently having a spouse. HIV testing was done among 42 (66.67%) spouses. Among the spouses tested, 33 (78.6%) were found to be HIV positive. One important finding was that 21 (33.33%) of the currently married HIV positive patients did not have their spouse tested for HIV in spite of being counseled to do so by the counselors of the Integrated Counseling and Testing Centre (ICTC).

Table 1. Clinical Presentation of Study Subjects' at the primary and secondary levels.

Opportunistic infections /diseases	n (%)
1 Fever of >1 month	37 (37.0%)
2 Tuberculosis	22 (22.0%)
3 Chronic diarrhoea > 1 month	17 (17.0%)
4 Reproductive tract infections	3 (3.0%)
5 Oral candidiasis	2 (2.0%)
6 No clinical events	19 (19.0%)

Source: Primary survey, 2009-10 Kolkata

The probable mode of transmission of HIV in these individuals was found to be through heterosexual route among 71 respondents, through blood transfusion among 3 respondents and could not be elicited in the rest. It was found that 95 (95%) patients were unaware about the available ICTC facility until they got themselves tested there. The average interval between a positive HIV test at the ICTC and pre-ART enrollment in this study is 22.6 (\pm 50.6) days. All of them with a positive test were referred from the ICTC to the ART centre. It was seen that 55 (55%) of the respondents had CD4 count <100 cells/ μ L during their pre-ART enrollment. Only the 5 (5%) respondents, who had attained college level of education, also had awareness about HIV/AIDS and its mode of transmission prior to HIV testing. Yet these 5 educated persons presented to the ART Center with CD4 cell count <100 cells/ μ L. Past history of opportunistic infections were present among 81 subjects and summarized in Table 1. During the initial illness, 24 (29.6%) sought treatment from the government health facilities, 56 (69.1%) from the private health sector and 1 (1.2%) from the unqualified rural medical practitioner. None of the patients were screened for HIV during these episodes of Opportunistic infections of which half of

them were AIDS defining illnesses. Even the available medical records during the periods of the opportunistic infections did not reveal any HIV screening at the primary and secondary levels of healthcare. All these patients continued to suffer from frequent opportunistic infections until they were referred to tertiary health care centers. It was only from the tertiary care hospitals that they were referred to ICTC centers for HIV testing. Even after such referral, half of these PLHIV did not go for HIV screening due to various reasons like fear of stigma out of AIDS, depression arising out of the disease, lack of family support in terms of money, accompaniment and personal care, and inappropriate health seeking like not following the medical advice and frequently changing the attending physicians. The factors reported to be responsible for delayed enrollment at the ART Center (Table 2). Physician's failure to recognize and refer for HIV testing at the earliest opportunity emerged to be the most important cause for such delays as reported by 47 (47%) respondents.

Table 2. Causes of delayed enrollment at ART Centre.

Factors	n (%)
1 Failure of physicians at the primary and secondary health care levels to refer for HIV testing after an opportunistic infection	47 (47.0%)
2 Health seeking behavior	13 (13.0%)
3 Fear of stigma	5 (5.0%)
4 Depression	3 (3.0%)
5 Lack of family support	6 (6.0%)
6 Could not ascertain any factor	13 (13.0%)
7 Multiple factors*	13 (13.0%)

Source: Primary survey, 2009-10 Kolkata

* A combination of the factors 1-6

DISCUSSION

Delayed enrollment at the ART Centers in India has been a long standing problem. Even in the US many PLHIV are tested relatively late in the course of their infection, until they are symptomatic.⁶ Although most studies, have focused on the determinants of late presentation for HIV treatment, the study has included the major component of the causal process leading to late access to ART center including delayed HIV diagnosis and late initiation of ART that have been poorly addressed until now.

The study shows that more than half of those who are presenting late are seen to have a CD4 cell count <100 cells/ μ L. It is already known that the risk of mortality is doubled when patients initiate ART with baseline CD4 cell count <100 cells/ μ L.⁴ Around 81% of the subjects in this

study had presented to the primary and secondary levels of healthcare with opportunistic infections. The study also shows that nearly half of the respondents (47%), most of them presenting with AIDS defining illnesses, told that they were not referred for HIV testing by their attending physician. Another study at Uganda by Nakanjako et al reported that 88% patients in the emergencies were not screened for HIV at the health centers.⁷ They are treated for the opportunistic infections at the primary and secondary levels but not screened for HIV infections although they are eligible for HIV testing. Finally these patients are referred to tertiary centers at later stages of the disease where the HIV screening is finally advised. Lack of clinical suspicion for HIV during acute care at the primary and secondary levels of healthcare thus remains the most important reason for the delay in this study. This lack of clinical suspicion and insensitivity towards the national guidelines regarding HIV testing is prevailing among the medical practitioners in the area even in the third phase of the ongoing National AIDS Control Program (NACP-III, 2006-2011).³ This finding is similar to what has been reported by Burns et al from United Kingdom.⁸ The characteristics of the referral system between the primary treating physician, screening and treatment facilities are known to be correlated with access to HIV care after diagnosis.⁹ Although the delay in enrollment is multi-factorial, the onus is still on the treating physician to suspect HIV infection at the earliest opportunity and refer the patient to the nearest testing center as HIV infection mostly remains asymptomatic unless punctuated episode with opportunistic infections. Therefore, the need for improved coordination between the primary physicians, the HIV screening and treatment care facilities is of immense importance. Increased awareness about HIV transmission and testing facilities and high index of clinical suspicion regarding HIV infection in appropriate clinical setting among physicians are crucial for early pre-ART registration of PLHIV in ART Centers. This is a serious issue and the physicians need to be sensitized. Furthermore, it is seen that almost all of the respondents are not aware of the available ICTCs. However, timely testing for HIV sometimes do not guarantee prompt enrollment for treatment and delays between getting a positive test and seeking ART have been reported in the range of 1-5 years.¹⁰ Such delays between getting a positive test and seeking ART are not seen in our study. The respondents are seen to enroll themselves at the ART center within an average period of 23 days of their positive test at the ICTC. Inappropriate health seeking behavior is also seen to augment their delayed enrollment among 13% and these delays were seen between initial opportunistic infection and HIV testing. After recovery from initial opportunistic Infection, their symptom free state prevents them from seeking follow up medical care. Anticipated fear of discrimination from disclosure of HIV status reported by 5% of the respondents is another

important factor for delayed enrollment. Stigmatization, discrimination and harassment of the HIV infected and affected people by the health care facilities still remain an enormous problem in the country.¹¹ These people suffer discrimination at the lower levels of public administration, both the government as well as private health care system. The study also shows depression to adversely affect their pre-ART enrollment among 3% respondents. There is increased prevalence of major depression in patients infected with HIV. Gupta et al have shown that anticipated HIV stigma was two times likely to give rise to depression.^{12,13} Family and social support is very important in such situations. The study, in addition, shows that family support affects the pre-ART enrollment as reported by 6% respondents. Similar to this study, Chakrapani et al from South India, also reported lack of family support to visit the ART center delays pre-ART enrollment.¹⁴ The ongoing IEC activities thus need to be focused on both the general people as well the primary health care providers, especially the practicing physicians. It is also evident that investments in the HIV response can help people in accessing information and services to improve the lives of the HIV infected people through reductions in stigma and discrimination, and timely delivery of treatment, care and support. The present study is limited by the fact that the outcome of interest is based on patients' self-reports, which may have been subject to social desirability bias. As a consequence, the length of time patients waited before seeking HIV care after diagnosis may have been underestimated.

CONCLUSIONS

Lack of clinical suspicion for HIV at the primary and secondary levels of health care still remains the most important reason for the delay in ART enrollment. The delayed initiation of ART among HIV patients still remains a major challenge for the ongoing national AIDS control programs to reduce the morbidity and mortality related to HIV/AIDS. In order to promote universal access to anti-retroviral therapy, strategies to promote initiation of ART at the most appropriate time should be formulated with utmost priority. Intervention efforts need to be focused not only on the people infected with HIV but the primary health care providers as well, especially the practicing physicians.

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