



ADHERENCE TO ANTIRETROVIRAL DRUG TREATMENT AMONG PEOPLE LIVING WITH HIV/AIDS: A STUDY FROM EASTERN NEPAL

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ABSTRACT

Introduction: HIV/AIDS has threatened an enormous worldwide challenge on the survival of mankind. Antiretroviral therapy (ART) for HIV is increasingly being introduced and utilized in diverse areas of the world.

Objectives: To determine adherence to ART and associated factors with adherence among HIV positive subjects receiving ARV therapy.

Methodology: In this cross sectional study total of 300 HIV positive subjects were interviewed using semi-structured questionnaire from Sunsari, Morang and Jhapa districts of Eastern Nepal.

Result: The median age for patients was 34 yr. Mean 4-day adherence was 92 percent. Adherence was lower over longer periods of recall. On univariate analysis less than university education, being unemployed, obtaining free treatment, severe depression, hospitalization >2 times, having moderate to severe side-effects and taking 4 or more medicines were associated with lower adherence (<90%).

Conclusion: Although the overall adherence was high, lower levels of adherence were documented among poor patients receiving free ART.

KEYWORDS :

Study Background

AIDS has threatened an enormous world wide challenge on the survival of mankind. Total infection figure close to 65 million individuals and 25 million died already due to AIDS. An estimated 33.2 million people worldwide were living with HIV, 2.5 million became newly infected and 2.1 million lost their lives to AIDS at the end of 2007¹ A little more than one-tenth of the world's population lives in sub-Saharan Africa, which is home to almost 68% of all people living with HIV¹.

In context to Nepal, number of People living with HIV is estimated over 60,000, and as of November 2009, total 14,787 HIV cases and 2,627 AIDS are reported by official data of National centre for AIDS and STD control (NCASC).²

Highly Active Antiretroviral Therapy (HAART) was a breakthrough in the industrialized world, leading to the reduction of mortality & the improvement of quality of life of people living with HIV/ AIDS (PLWHA)^{3,4}

It transformed the disease into a chronic treatable condition for a significant proportion PLWHA with access to this treatment. The Government of Nepal introduced the ART program with the goal to prolong the lives, to restore the mental and physical functions and to improve the quality of life of PLWHA.

Due to unavailability of vaccine against HIV/AIDS, there are no ways other than relying on antiretroviral therapy (ART) for which is directed against the replication of HIV so that there will be reduction of HIV related mortality and morbidity, improvement of quality of life, restoration and/or preservation of immunological function and maximal and durable suppression of viral replication.⁵

The advent of antiretroviral treatment (ART) has dramatically slowed down the progression of HIV, reduced the death rate from AIDS and transformed the infection from a fatal illness to a more manageable chronic illness². Since 2004, Nepal has been providing free-of-cost ART and by the end of 2009, over 2,524 adults received free ART at 23 sites across the country out of an estimated over 60,000 People Living with HIV (PLHIV) nationally. The success of a national scale-up of ART depends on bolstering the capacity of the health care system and shifting its orientation from acute care to a chronic-care model. However, simply making ART medicine

available to PLHIV is not enough, as strict adherence is required for treatment success.

Poor adherence can lead to the virological failure of cheap first-line treatment regimens and the spread of multi-drug resistant forms of the virus, resulting in a public health calamity. Unlike many other diseases, it is vital that PLHIV consume all doses of the drug to prevent resistance and to improve their chances of survival. Understanding the level of non-adherence and the factors that lead to it are important clinical and public health goals. This information is essential to inform ART programmers and maximize the success of treatment.

Rational of the study:

Highly Active Antiretroviral Therapy (HAART) was a breakthrough in the industrialized world, leading to the reduction of mortality and the improvement of quality of life of people living with HIV and AIDS (PLWHA). Antiretroviral therapy (ART) for HIV is increasingly being introduced and utilized in diverse areas of the world. However, little research exists on adherence to ART in different cultural settings, particularly in developing countries such as India & Nepal.

Objectives :

To determine adherence to ART & To identify factors associated with adherence among HIV positive patients receiving ARV therapy.

Review of literature

According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), Nepal has a concentrated HIV/AIDS epidemic with an estimated 62,000 people living with the virus.⁸ There are serious concerns that AIDS could be the leading cause of death by 2010, if the current rate of infection continues to increase.

UNAIDS reported that HIV/AIDS is rapidly spreading in the 15- to 39-year-old group, among whom AIDS-related diseases are already a major cause of death. It added that without effective treatment programme, between 10,000 to 15,000 Nepalese might die annually because of AIDS.

Studies have shown that among the highest risk groups are sex workers and their clients, migrant male workers and their wives and injecting drug users (IDUs).

Commercial sex workers (CSWs) are even more at risk. According to the government's data, there are around 60,000 CSWs in the country, of whom 604 are positive, while 2,963 of their clients are HIV positive. HIV is a global health problem affecting all regions and countries around the world. There were about 40 million adult and 2.7 million children worldwide living with HIV at the end of 2001.^{10,8} During 2001 some 5 million people became infected with HIV and 3 million deaths from HIV/AIDS were recorded. Out of the total 42 million of HIV/AIDS infected people estimated 6.1 million were living in Asia, where infections are increasing faster than anywhere else in the world.^{11,12}

In 2004, 8.2 million people are infected with HIV, and 1.2 million people were newly infected in the past year, number of females living with HIV and AIDS has increased by 56% since 2002.the infection claimed 540,000 lives in Asia in 2004.^{9,10}

Approximately one-third of the 42 million patient living with HIV/AIDS globally at the end of 2002 were co-infected with Mycobacterium tuberculosis, with 68% of these persons living within Sub-Saharan Africa, 22% (approx. 2.5million) living within South-East Asia Region and 17% within SAARC countries. According to the WHO estimates, in the year 2000, 12% of global TB burden was associated with HIV infection while it was only 4% in the year 1995. Approximately 98% of the HIV/TB co-infection is found in the developing countries.

METHODOLOGY

Study Design: Descriptive cross - sectional study design used to in this study.

Study Population: People living with HIV/ AIDS (PLHA) of Eastern Nepal

Study area: VCT /ART center of BPKIHS, KYC/PJK Rehabilitation center Biratnagar, Damak Chandragadhi Jhapa.

Sample and sampling Technique: Purposive sampling technique was Use till study period of Three year (2011-20013).

Inclusion Criteria : HIV positive who are under treatment of ART.

Exclusion Criteria : Those not willing to participate and who did not gave formal consent for the study were excluded.

Ethical Issue : An informed written & understood consent was taken from the participants of the study. All the personal information was kept confidential. Ethical clearance was taken from IERB of BPKIHS, Dharan.

Operational definition:

Adherence rate=(No. of doses taken/ No. of doses prescribed)*100
No. of doses taken=Total dose prescribed - total dose missed

Data collection and management:

All the subjects were interviewed separately using face to face interview technique and confidentiality was maintained. The collected data was entered into computer through excel program and Analysis done by using SPSS version 15.0 software. Frequency, Percentage, Average, was calculated to summarize of the data.

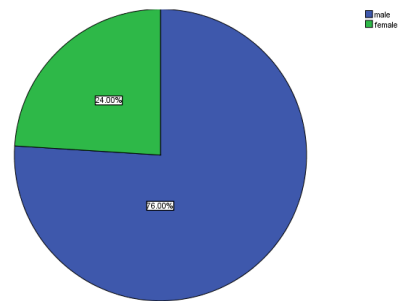
RESULTS:

Table No 1. Demographic characteristics of the study population:

Characteristics	Number(N=300)	Percentage(%)
Gender		
Male	228	76.0
Female	72	24.0
Risk Group		
IDUs	167	55.7
CSWs	13	4.3

Clients of CSW	47	15.7
Driver	18	6.0
Housewife	55	18.4
Religion		
Hindu	197	65.7
Muslim	4	1.3
Buddhist	32	10.7
Christain	6	2.0
Kirat	61	20.3
Literacy		
Can't read and write	28	9.3
Read & write with no schooling	40	13.3
Read & write with Schooling	174	58.0
SLC	46	15.3
More than SLC	12	4.0

Fig. shows Sex of the study population



The median age of study population was 34 years. Out of total 300 clients 276 patients reported that they have never missed any prescribed dose but 24 (8%) mentioned that they have missed at least 2 pills of the prescribed dose.

- The average adherence rate for males and females were 98.8% and 98.4% respectively. The overall adherence rate of the study population was 92%.
- The adherence was lower over longer period of recall.
- The minimum adherence rate was 86.7%
- Sex was significantly associated to adherence to ART
- Living condition was also significantly associated to adherence to ART

Mean 4-day adherence was 92 percent. Adherence was lower over longer periods of recall. On univariate analysis less than university education, being unemployed, obtaining free treatment, severe depression, hospitalization >2 times, having moderate to severe side-effects and taking 4 or more medicines were associated with lower adherence (<90%).

Among the study subjects who have less than 95% adherence the major barrier for the adherence were busy in work and lack of knowledge of ART. Among the patients who never missed to take the pills, reported that watch was useful to recall drug taking time and family member helped them to take the pills regularly.

CONCLUSION

The adherence 92% seems to be encouraging; however achieving adherence for all the patients on ART is a great challenge. Disclosure of the HIV status by the client, perceived benefit of the treatment, satisfaction from the service provider was found to be the facilitator for the adherence. Factors such as the smoking habit, topographical difficulties and most importantly the financial cost associated with medications was identified as the barriers to the antiretroviral therapy. Although the overall adherence was high, lower levels of adherence were documented among poor patients receiving free ART. Provision of free treatment of ART and side effect management should make available up to unreached poor people of community.

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