

ORIGINAL ARTICLE

A Study to Determine Factors Contributing to Acceptability of HAART by HIV-Positive Tuberculosis Patients in Livingstone District, Zambia

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ABSTRACT

Objective: The objective of the study was to determine factors contributing to acceptability of Highly Active Anti-Retro Therapy (HAART) by HIV-positive clients co-infected with tuberculosis accessing care at health facilities in Livingstone district, Zambia.

Design: An explorative descriptive design study was conducted at three major chest clinics in Livingstone; namely Livingstone General Hospital, Mahatma Gandhi and Sepo health centers. The study population was all the TB/HIV co-infected patients aged between 18 and 49 years who were referred for HAART in the previous one month or more prior to the study and were not critically ill. The respondents were selected using systematic sampling method. A total number of 131 TB/HIV co-infected patients who were being attended to at the selected chest clinics in Livingstone were enrolled into the study.

Data were collected using a structured interview schedule and focus group discussion guide to enable the investigator collect both quantitative and qualitative data. Epi-info version 6 and SPSS 12.0 for windows software computer packages were used to analyze the quantitative data. Chi-square was used to measure association between the dependent variable (acceptability of HAART by TB patients) and the independent variables. With the confidence interval set at 95%, the p value was used to

ascertain the degree of significance by using the decision rule which rejects the null hypothesis if p value is equal or less than 0.05.

Results: This study revealed that the most significant factors associated with acceptability of HAART by TB patients and accessibility of HAART were knowledge of TB and HIV relationship including HAART, HIV-related stigma and discrimination and support from health care providers regarding HAART.

A significant association was found between knowledge of TB and HIV relationship and safety of taking HAART while on TB treatment, 77.9% of the respondents who did not know the relationship between TB and HIV indicated that it was not safe to take HAART concurrently with TB treatment (p value 0.000).

There was also significant association knowledge of commencement of HAART in TB patients and discussion of HAART and its benefits with the counselor. Of the 52 respondents who did not know that HAART could be commenced in TB patients, majority (71.2%) did not discuss HAART and its benefits with the counselor (p value 0.001).

In addition, there was a significant association between HIV-related stigma and discrimination and acceptability of HAART. Majority (78.7%) of the respondents who were treated differently because of HIV reported that they would not go back to the ART clinic for medication (p value 0.002). Furthermore, respondents whose HAART concerns were not addressed (74.1%) would not go back to the ART clinic for HAART (p value 0.008).

The results further showed that factors such as TB-related stigma and discrimination, sex, age, marital status and

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level of education were not significantly associated with acceptability of HAART. Probably, TB-related stigma and discrimination is not associated to acceptability of HAART because TB is curable. The demographic characteristics were also not associated with acceptability of HAART probably because of personality attributes of an individual.

Conclusion: From this study, it is evident that there are certain factors that are significantly associated with low acceptability of HAART by TB patients. These factors include TB patients' level of knowledge on TB/HIV co-infection and HAART, TB- and HIV-associated stigma and discrimination, amount and depth of information provided to the TB patient during the pre- and post-test counseling and provision of support to TB patients by health care providers.

The other factors identified to be associated with acceptability of HAART by TB patients were integration of the TB and HIV services and number of health facilities offering the TB and HIV services. Most of the clients indicated that integration of TB and HIV services will be beneficial to them as it limits the number of time spent in these facilities, minimizes the cost of travelling to the sites and allows them more time to rest.

The study further revealed that certain factors were not associated with acceptability of HAART in this study. These factors were sex, age, marital status and educational level of respondents. However, in similar studies, these factors were found to be statistically significant to acceptability of HAART by patients co-infected with TB/HIV.

As revealed from this study, the burden of being diagnosed with concurrent TB and HIV infections on individuals can be lessened by uptake of HAART. This in turn will have a positive impact on the development of the nation.

INTRODUCTION

The convergence of Tuberculosis (TB) and Human Immuno Deficiency Virus (HIV) epidemics is a deadly threat to gains in survival among populations¹. TB is also one of the most common causes of morbidity and one of the leading causes of mortality in People Living with HIV and AIDS². Currently, about 42 million people are HIV

infected and almost one third are also infected with TB worldwid³. The dual epidemics are particularly pervasive in Africa, where HIV has been the single most important factor contributing to the incidence of TB over the last 10 years. Approximately, 50% of patients with active TB disease in many African countries are HIV positive³.

In Zambia, approximately 70% of the people with TB are co-infected with HIV². Several important associations between epidemics of HIV and TB especially if untreated contribute to the high morbidity and mortality rates among people who are dually infected. Some of these associations include:

HIV positive persons are more susceptible to exogenous re-infection by a second strain of TB, even after adequate anti-TB treatment has been provided

The risk of poor response to TB treatment, that is, failure, relapse and death is greater among HIV positive individuals

Once a person who has HIV develops active TB, the progression to AIDS and death is more rapid than for HIV positive patients who do not have active TB because TB enhances replication of HIV³.

With the large and rising numbers of HIV clients co-infected with TB, health services struggle to cope leading to the following compounding consequences^{3,4}:

Difficulties in diagnosis of TB. This is because as HIV related immunosuppression increases, the clinical pattern of TB changes, with increasing numbers of smear-negative and extra pulmonary cases. In addition, TB is more likely to be disseminated

HIV infected TB patients can also suffer from other HIV-related diseases

Inadequate supervision of anti-TB chemotherapy

High mortality rates during treatment

High default rates because of adverse drug reactions due to the use of second line anti-TB drugs

High rates of TB recurrence

Nosocomial infections

Owing to the high percentage of HIV positive patients co-infected with TB in Zambia, the majority of the populations are at a greater risk of dying unless the TB/HIV control measures such as ensuring acceptability of HAART by TB patients are supported. Furthermore, TB is the only major AIDS-related opportunistic infection that poses a risk to HIV negative people⁴.

Thus, in response to the burden of TB/HIV co-infection on both individuals and populations, WHO established the TB/HIV working group of the Stop TB Partnership in 2001 with the aim of coordinating the global response to the HIV associated TB epidemic³. A policy which states that all HIV patients should be screened for both active and latent TB was then formulated. Further, the policy states that all active TB patients regardless of their perceived risk of HIV infection should be offered an HIV test as part of their TB treatment package and as part of the control of TB and HIV in the community. When the two screening services are provided concomitantly, a greater number of co-infected individuals are identified, increasing the likelihood of achieving improved outcomes for both diseases. The screening services are entry points to the control and treatment of both infections. One of the notable control strategies for TB and HIV infections is the acceptability and consequent uptake of HAART prescribed to patients suffering from the dual epidemics. Evidence of success stories of outcome of the treatment of the two diseases have been reported in Latvia and Peru where HAART was started early in TB patients⁵. Improvement in the immune function was noted in People Living with HIV and AIDS (PLWHA).

Uptake of HAART by TB/HIV positive patients also reduces the incidence rates of TB in the community, thereby reducing the risk of transmission of TB to the entire community including HIV negative people. This is because TB is an airborne disease and TB/HIV co-infected persons have a lower chance of TB recurrence if HAART is utilized⁴. In addition, the burden of TB/HIV co-infection put on the health care system in terms of re-admissions of patients, treatment with anti-TB drugs and the use of other services such as laboratory tests and transfusion can be averted by simply supporting TB patients who are eligible for HAART so that they accept and consequently utilize this service effectively.

It is for this reason that the study investigated the factors influencing acceptability of HAART by HIV patients co-infected with TB. Investigating these factors has great potential for increasing access of HAART to TB/HIV co-infected individuals which will ultimately lessen the burden of the two infections on individuals, communities and the country at large.

METHODOLOGY

Study Design and Sampling

The study used an explorative descriptive design and was conducted at three major chest clinics in Livingstone; namely Livingstone General Hospital, Mahatma Gandhi and Sepo health centers. The study population was all the TB/HIV co-infected patients aged between 18 and 49 years who were referred for HAART in the previous one month or more prior to the study and were not critically ill. The respondents were selected using systematic sampling method. A total number of 131 TB/HIV co-infected patients who were being attended to at the selected chest clinics in Livingstone were enrolled into the study. Out of the 230 population size, 131 respondents were selected using systematic sampling method. The inclusion criteria for this study was all the TB/HIV co-infected patients aged between 18 and 49 years who were referred for HAART in the previous one or more month(s) prior to the study and were not critically ill as long as they had been residing in Livingstone district for 6 months or more and were willing to participate in the study. The respondents were selected using systematic sampling method.

Data Collection Tools

A structured interview schedule was used as a checklist while a focus group discussion guide was used to guide the interview during data collection. The structured interview schedule comprised of questions that were both open and closed ended. Using the interview schedule, the researcher and assistants interviewed 131 respondents. A focus group guide was also used to ask questions to a group consisting of 6 – 12 participants. The researcher and assistants conducted two focus group discussions at each of the three ART sites, thus a total number of six focus group discussions were conducted.

Confidentiality was assured to the respondents/participants and their consent obtained before commencing the interviews.

Data Analysis

Epi-info version 6 and SPSS 12.0 for windows software computer packages were used to analyze data from the interview schedule. Chi-square was used to measure association between the dependent variable (acceptability of HAART by TB patients) and the independent variables. With the confidence interval set at 95%, the p value was used to ascertain the degree of significance by using the decision rule which rejects the null hypothesis if p value is equal or less than 0.05.

Content analysis was used to analyze data from the focus group discussion. The participants' own words were used to list the key statements and ideas expressed for each topic of discussion. The most useful information that emerged from the discussions was selected to illustrate the main ideas. The findings were then interpreted and a full report of the focus group discussion that reflected the discussion as much as possible was prepared.

RESULTS AND DISCUSSIONS

Knowledge of TB/HIV and HAART

The findings revealed that knowledge level on TB and HIV relationship among the majority of the respondents (71.9%) was low although almost all the respondents (97.7%) had heard about TB and HIV. The low level of knowledge on TB and HIV relationship was attributed to the fact most of the TB and HIV services in Zambia are not integrated. Therefore, the TB site could offer services that emphasise more on the management of TB disease while on the other hand, the ART site could also emphasise on the management of HIV infection.

Significantly, more respondents with inadequate knowledge on TB and HIV relationship (77.9%) were of the opinion that it was not safe to take HAART concurrently with TB treatment than those with adequate knowledge (55.6%) (p value 0.000). One possible explanation for this could be that knowledge of the relationship between TB and HIV influences acquiring more knowledge on the safety of taking HAART concurrently with TB medication. The assumption is that adequate knowledge on TB and HIV relationship can motivate one to acquire more knowledge on interventions that can remedy the situation such as the utilization of HAART and how to ensure safety when taking ARVs.

HIV-related Stigma and Discrimination

The study revealed that stigma and discrimination among TB patients infected with HIV is still very high in government health facilities despite the various measures that the country has put in place to fight stigma and discrimination such as re-training of service providers. Most (93.3%) of the respondents who were aware that they were co-infected with TB and HIV felt that the health workers treated them differently because they had HIV infection in addition to the TB. The several ways in which the health workers treated them differently were that most of the health workers showed no concern (64.3%), some of the health workers did not look at them properly (21.4%) and 14.3% were harsh to the patients.

The above responses are similar to what some participants in the focus group discussion said. One participant said that the nurses just lock themselves in the office without checking on them when the patients are admitted in hospital. The other participant said that some nurses are harsh and need to be talked to. This could be attributed to the association of TB disease to HIV infection as reported by the MOH (2006) that in Zambia, approximately 70% of the TB patients are co-infected with HIV. The findings are similar to those revealed in a study that was conducted by Mthetwa (2004) in South Africa. His study revealed that such patients felt undermined by the behaviour of the health professionals because of the manner in which HIV/TB co-infected patients were looked at and isolated in separated care areas.

This study further revealed that most of the respondents who would not go back to the ART clinic for review are those who would not receive the good care they received from service providers as before they were diagnosed with HIV (p value 0.002). This was also supported by most participants in the focus group discussion who said that they would not go back to the ART clinic because of the poor attitude of service providers portrayed to them. For example, one participant indicated that it was better to seek HIV care at a private health facility where they are accorded more attention than government health facilities.

All these behaviours from health care providers portray that HIV associated stigma and discrimination still remain a critical problem in most countries for effective control of the pandemic. In most instances, this is likely to

demoralize the affected individuals who may decide not to seek HIV services anymore as another participant in the focus group discussion indicated that it was just better to die at home. This revelation agrees with the sentiments of Nelson Mandela who at the XIV International AIDS conference said that stigma, discrimination and ostracism against HIV are the real killers⁶. This finding is indeed worrying as the convergence of TB disease and HIV infection if untreated can lead to high morbidity and mortality rates among those infected with the dual epidemics as also documented by the WHO (2006).

Support from Health Care Providers regarding HAART

The study revealed that only 33.3% of the respondents had their concerns regarding HAART addressed by health care providers while the concerns of 66.7% respondents were not addressed. One of the reasons why most of the patients concerns related to HAART were not addressed could be attributed to poor attitude by health care providers towards people co-infected with TB and HIV as well as poor attitude towards work. This was also shown by the various responses from the participants in the focus group discussion. Some participants said that the nurses were rude while one participant said that he was told that he just didn't want to take the medicine when he asked about the side effects. Such an attitude by health care providers may have an impact on motivating clients to commence HAART as clients may not know what to do in case they experience side effects.

Another reason for health workers not addressing the patient's concerns may be related to shortage of manpower at health facilities. In such circumstances, health workers may be more preoccupied with ensuring that all the clients are attended to within a shortest period of time than devoting their time to addressing the clients' concerns which may take a long period of time. Though ensuring that clients spend less time at health facilities is good, it may not benefit those whose concerns are not met as they would not be fully satisfied with the services that they receive. This fact was confirmed by Macha (2008) who indicated that inadequate human resource in health facilities resulted in inefficiency.

Since both TB drugs and ARVs are strong drugs with life threatening side effects such as liver toxicity, inability to address the concerns regarding HAART for TB/HIV co-

infected patients may limit uptake of HAART by these patients. It is noteworthy that the study also revealed an association between having the HAART concerns addressed and uptake of HAART (p value 0.008). This is in line with Eang et al (2007) who reported that continuous discussion and education of concerns regarding HAART between clients and service providers was significantly associated with motivating clients to utilize HAART.

Recommendations

Based on the findings, the researcher recommended that the Ministry of Health to adopt an integrated TB and HIV service delivery to allow for commitment from the health care providers towards treatment and control of the dual epidemics. Capacity building in TB and HIV relationship for clinicians in the TB centres can easily be initiated so that HAART is commenced in these centres⁷. This report indicates that when health care providers are equipped with knowledge on TB/HIV co-infection and HAART, they will face fewer problems in managing patients infected with the dual epidemic. In such circumstances, the health care providers will understand the consequences of the dual epidemic on patients and thus, they are likely to encourage eligible patients to commence HAART. On the other hand, the patients will be equipped with knowledge on TB/HIV co-infection and HAART because the health care providers will impart the knowledge to them. Since the consequences of TB/HIV co-infection and the benefits of HAART will be understood by the patients, uptake of HAART is likely to increase.

In addition, the Directly Observed Therapy (DOT) model utilized in the TB centres can be utilized to achieve superior outcomes among these patients with the dual epidemics. Since the DOT model reinforces the importance of adherence with anti-TB drugs as well as constant information education and communication, the model can also allow for its use with ARV therapy when treatment for both TB and HIV are provided at one site. In an integrated management of TB/HIV co-infected patients, a unique opportunity to achieve high rates of adherence with ARV therapy while on anti-TB drugs is created. This approach may further provide the patient with the skills to maintain life-long adherence with ARVs once TB therapy is completed. In addition, there will be

utilization of other supportive and outreach efforts available through the DOT services. Close follow-up of patients through the frequent contact required for DOT will allow for more careful monitoring of patients to promptly identify adverse effects of ARVs, particularly during the early phase after initiation of HAART. Trust is equally likely to be developed between the patient and health care provider leading to free dissemination of information relating to TB/HIV co-infection.

Ministry of Health should screen service providers so that only those who possess the good qualities of caring for clients co-infected with HIV and TB can be allowed to practice in the HIV and TB sites. This is because these two infections are mostly associated with stigma and discrimination.

There is need for hospitals to work closely with District Health Offices and communities to intensify and sustain massive education campaigns on the benefits of the utilization of HAART by patients co-infected with TB and HIV. Various educational strategies such as the use of leaflets and brochures should be adopted. Health care providers should also identify and involve clients who had received concurrent TB therapy and HAART in sensitizing and encouraging other clients to also utilize HAART while on TB therapy. Stigma including self stigma which is due to shame can also be lessened leading to increased uptake of HAART while on TB treatment.

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