

Acceptability of PIHTC among TB Patients in Bale Robe Hospital, Southeast Ethiopia

Tilahun Ermeko*, Ahmed Yasin Mohammed, and Abate Lette Wodera

Department of Public Health, College of Medicine and Health Sciences, Goba Referral Hospital, Madawalabu University, Bale Goba, Ethiopia

Abstract

Introduction: HIV testing and counselling is fundamental to both HIV/AIDS prevention and treatment. Patients need to know their sero- status to benefit from available care and treatment options. Therefore, multi focused testing and counselling strategies need to be instituted in order to reach risk group. Different factors might affect PIHTC service up take which demand timely assessment.

Objective: The aim of this study was to assess acceptability level of PIHTC among TB patients in Bale Robe Hospital.

Method: Institution based cross sectional study was conducted from March – April/2013 at Bale Robe hospital TB clinic. Structured and pretested questionnaire was used to collect the data. Simple random sampling technique was used to select the study participants. The data was analysed and processed using SPSS version 22

Results and Discussion: Most of the patients were initiated for HIV testing by their TB treatment supervisor 265(94.64%). Among those who were initiated by their treatment supervisor for HIV testing, 210 (79.25%) had under gone HIV testing. Acceptability of PIHCT is more in common younger age group than elder, primary education (18.93%), secondary and above education (29.04%). The reported barriers for acceptability of PIHCT include no risk person for HIV infection 32(58.18%), fear of stigma and discrimination and not sure of confidentiality 5(9.09%), unable to cope the positive result 4(5.46%).

Conclusion and recommendations: The relatively high acceptability of PIHCT in this study shows fertile ground for the control, prevention and treatment of both HIV/AIDS and TB. The programmed needs to be strengthened and TB supervisors should keep their efforts to promote PIHCT.

Keywords: Acceptability of PIHTC • TB patients • Bale Robe Hospital

Introduction

The HIV pandemic poses a significant challenge to tuberculosis control at all levels (TB, guideline). Human immunodeficiency virus (HIV) infection is a major risk factor for tuberculosis growth (TB). An increasing in reported cases of TB since the mid 1980 is attributed in part, to TB occurring in persons infected with HIV, the virus that cause AIDS [1,2].

HIV infection is now the most important single predictor of TB incidence in sub-Saharan Africa. The region accounts 70% of the world's 14 million people who are infected (5%). In some countries of sub-Saharan Africa, up to 70% of the patient with smear positive pulmonary TB is HIV positive [3].

Voluntary HIV testing and counselling has been carried out in many places with excellent results. It is cost - effective and a gateway for most HIV related services including provision of antiretroviral drugs [4]. However in most sub-Saharan African countries, many people don't know their HIV status [5]. The prevalence of co-infection among adult TB cases is estimated 40% in urban areas in Ethiopia [5] 6.6% of TB patients know their sero-status as described

**Address for Correspondence:* Tilahun Ermeko, Department of Public Health, College of Medicine and Health Sciences, Goba Referral Hospital, Madda Walabu University, Bale Goba, Ethiopia, Tel: 251909648032; E-mail: tilahunjimma2008@gmail.com

Copyright: © 2021 Ermeko T, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received 22 February, 2021; **Accepted** 12 March, 2021; **Published** 19 March, 2021

in one cross – sectional study in north Gender [6]. Due to underutilization of client initiated HIV testing and counselling the revised UNAIDS/ WHO policy statement on HIV testing recommended that provider initiated HIV testing should be implemented in clinical setting [7].

Tuberculosis (TB) patients are one of the target populations for the provider initiated testing and counselling [8]. WHO has, therefore incorporated routine testing and counselling as a component of TB/HIV collaborative efforts. Subsequently, the national TB and HIV guideline in Ethiopia recommends HIV testing and counselling as a routine care for TB patient. However, the acceptability of this approach has not been studied in Bale Robe Hospital; the objective of this study is to assess the acceptability of PIHTC among TB patients in Bale Robe Hospital.

According to 2005, WHO joint United Nations program on HIV/AIDS and the international standard for TB care shows recommended providers counselling service and HIV testing for every TB patients in a country with High HIV sero-prevalence in the general population [9]. One approach is routine counselling and testing of patients (PIHTC) [10].

Nevertheless, client- initiated, or voluntary testing and counselling (VTC) remains the dominant form of testing in many sub-Saharan African countries while VTC has been effective in identifying the number of HIV positive individuals [11].

HIV testing and counselling is fundamental to both prevention and treatment of HIV. Unless patients know their sero- status, they cannot benefit from the available care and treatment. Therefore various counselling and testing strategies are needed to identify more HIV infected TB patients. The national TB and HIV of guideline in Ethiopia recommend HIV testing and counselling as routine care for TB patients [12].

Research Methodology

Study area and period

Institution based, cross-sectional study was conducted from March – April/2013 at Bale Robe hospital. This study was conducted on TB patients who got TB treatment in the hospital. Bale Robe hospital is one of the district hospital found in southeast Ethiopia, Oromia regional state. The hospital had four wards, six outpatient departments, one operation room, one pharmacy, one laboratory room, One X- Ray room, one TB clinic and one maternal and child health clinic with five GP doctors, two specialists, four BSC nurses, twenty seven Clinical nurses, one health officer, two anaesthetists, five pharmacist and six laboratory technicians.

Sample size determination

The required sample size of the study population was determined using a formula for a single population by considering 95% confidence interval, 24% proportion [13], 5% margin of error and 5% of non-response was planned practically. The final sample size calculated to be 294.

Data collection tools and techniques

The study was conducted by using standardized structured closed and open ended questions. The questionnaire was prepared in English. Questions were grouped and sequenced in terms of their order and objectives they focused on. Socio-demographic characteristics, knowledge and attitude on HIV / ADIS/ TB provider initiated HIV testing and counselling was applied. The data was collected from TB patients who come to Bale Robe Hospital, TB clinic, to get treatment by face to face interview. Simple random sampling technique was used to select the study participants.

Data quality control

In insuring the quality of the data, the questioner was pretested. All the data from Bale Robe Hospital TB clinic was checked for completeness, accuracy and consistency by principal investigator and supervisor was closely monitor the data collection.

Data processing and analysis

The data was analysed and processed using SPSS version 22. In the analysis of the data frequency distribution of variables was worked out in order to describe them in relation with study population. Those with multiple response questions; each choice was coded in “Yes” when chosen by the respondents and “No” when was not. Few continuous and ordinal variables were categorized to categorical type to aid further analysis.

Ethical considerations

An Ethical approval was obtained from Madda Walabu University, College of medicine and Health Science, Research coordinating office. Informed verbal consent was obtained from the respondents.

Results

This study yields response rate of 280 (95.2%). Among the non-respondents 14 were not willing to participate in the interview for different reasons and 3 were refused to give response, 7 were transferred to other health sociality outside Robe Hospital for follow up, the remaining 4 were defaulted from the tuberculosis treatment program. Out of the total 280 respondents 153 (54.6%) were males, 127(45.4%) were females. Majority 159 (56.79%) of the study participants were between 15-34 years of age. About 142 (50.71%) of them were Muslim followed by Orthodox 100 (35.71%) in religion. Majority of them, 185 (65%) were married. Regarding to educational status of the participant, 86(30.71%) cannot read & write, 60 (21.43) can read & write, 53 (18.93%) were primary school cycle [1-8], and 81 (28.93%) were secondary and above education. Majority of them, 70 (25%) were house wife, followed by farmer & student 43 (15.3%) (Table 1).

Knowledge, attitude and opinion on TB/HIV/ADIS

Majority of participants 260 (92.85%) were not concerned of being infected with TB. 115 (41.07%) of the study subject said that people who live with TB patients are at high risk of getting TB 95(33.93%) of participants believe that people who live in overcrowded area are at high risk of getting TB. 49 (17.5%) of participants revealed that poor people are at risk of getting TB. The remaining 7.5% are haven't knowledge about risk of getting TB. Responses on questions asked about source of TB infection included from TB Patient 170 (60.71%,) from Health unit 3 (1.07%) There were still misconceptions on source of TB 79 (28.21%) of the sampled TB Pt indicated polluted air & contaminated water as a source of TB other reported misconceptions of the route of TB transmission were evil spirit & sexual intercourse. 275 (98.21%) of the participants believed that TB is curable diseases. Regarding patients knowledge about relationship between TB & HIV AIDS nearly 229 (81.79%) of the participants believe that TB patients are not HIV Positive. Similarly, 216 (77.14%) of the participants believe that the control of HIV/AIDS could help control & TB. More than half (157 (56.07) of the participant believe that a health looking person could be positive for HIV (Table 2).

Provider initiated HIV counselling & testing

Of the 280 patients interviewed, 255 (91.07%) reported that they were aware of the availability of PIHTC before this interview. The most common source of information for PIHTC mentioned by participants were health worker (60%) and mass media (30.2%) followed by family member (4.7%). Among the participants who have not over heard of PIHTC before the interview 96% have agreed to be checked their HIV sero status. Most of the participants 183 (65.36%) were extremely in favour for PIHTC. Responses on questions asked at which time should one be tested for HIV, 171 (61.07) at any time, 57 (20.36%) when one is sick followed by 37 (13.21%) before marriage. Most of the participants 265 (94.64%) were initiated by their TB treatment supervisor. For HIV testing & counselling, after initiation by TB treatment supervisor 79.25% had HIV testing & counselling, and 98.09% participant were received counselling before & after testing. Among them 97.14% did satisfied and 95.71% of participants know their results? Among 265 participants 55 were not tested for HIV after TB treatment supervisor initiation, the main reason was not risk person for HIV 32 (58.18%), not sure of confidentiality & fear of stigma & discrimination following the positive result 5 (9.09%), don't want to know the result unable to cope with the positive result 4 (7.27%) followed by partners trust 2 (3.64%) (Table 3).

Discussion

HIV testing is fundamental to both prevention and treatment of HIV. Efforts to increase the coverage of HIV testing have recently extended to the provision of routine HIV testing, where the health care provider rather than the client or the patient initiates the test. The results of this study demonstrate the acceptability of PIHTC among TB patients and the factors influencing its uptake. Over half (54.6%) of the study subjects were male 17.86% of the participants were in the age group of 25-29 followed by 20-24 years old (16.1%). 26.1% of participants were single, and 28.93% had secondary and above education. In this study, it was found that 265 (94.64%) of the sampled TB patients were initiated by their TB treatment supervisor, among those ever initiated; 210 (79.25%) were tested for HIV during TB treatment and the remaining 55 (20.75%) of the participant were not volunteer for HIV testing. The main reason for not to be tested was that they are not risk person for HIV (58.18%). All of the HIV tested patients had collected their HIV test result.

As documented by several studies and WHO [14], this study also showed that a high prevalence of TB occurred in the young and adult population. In this study, high proportions of TB patients were aware of TB; curability of TB (98.212%) and source of TB from TB patients (60.71%). The study as well identified misconceptions regarding source of TB among the TB patients. This finding is similar to finding from study done North Ethiopia [6]. This gap could be due to unplanned health education at health facilities that may affect TB/ HIV/AIDS control programs.

Table 1. Socio-demographic characteristics of TB patients by age, sex and religion in Bale Robe Hospital.

Variables	Frequency	Percent
Age	15-34	56.79
	35-59	39.97
	>60	3.21
Sex	Male	54.6
	Female	45.4
Marital status	Married	65
	Single	26.1
	Other*	9.9
Religion	Muslim	50.71
	Orthodox	35.71
	Protestant	11.43
	Catholic	2.15
	Others	0
Educational status	Literate	21.43
	Illiterate	30.71
	Grade 1-8	18.93
	Grade 9-12	17.14
	Above 12+	11.79
Occupational status	Governmental employer	12.86
	House wife	25
	Daily laborer	4.64
	Farmer	15.36
	Driver	3.57
	Hotel worker	9.64
	Student	15.36
	Merchant	13.57
Incoming per month	<500	14.28
	500-699	14.28
	700-1000	27.80
	>1000	43.90
Place of Residence	Urban	72.86
	Rural	27.14

Others* = Divorce and widowed

Table 2. Frequency distribution of knowledge attitude and opinion on TB/HIV/ AIDS in Bale Robe Hospital.

Variables	Frequency	Percent
Have you ever been concerned of being infected with TB?	Yes	29.64
	No	70.36
	I don't know	0
In your opinion which segment of population is at risk of getting	Poor people	17.5
	Those who lives with TB patient	41.07
	People live in overcrowded area	33.93
	I don't know	7.5
From where can someone get TB?	From TB patient	60.71
	From health unit	1.07
	Polluted air and contaminated mater	28.21
	Having sexual intercourse	1.79
	Evil spirit	8.21
Do you believed that TB can be cured	I don't know	0
	Yes	98.21
	No	1.07
Do you think that TB patient are HIV positive	I don't know	0.71
	Yes	11.79
	No	81.79
Do you think that control of HIV/AIDS helps for the control of TB?	I don't know	6.43
	Yes	77.14
	No	10
May a health looking person be positive for HIV	I don't know	12.86
	Yes	67.9
	No	32.1
	I don't know	0

Table 3. Frequency distribution of PIHTC among TB patient in Bale Robe Hospital.

Variables	Frequency	%	
Have you ever heard of PIHTC?	Yes	255	91.07
	No	25	8.93
	I don't know	0	0
Where did you get the information	Health workers	153	60
	Mass media	77	30.2
	Family member	12	4.7
	Friends	9	3.53
	Other***	4	1.57
Do you agree that any one should check his /her HIV sero – status?	Yes	24	96
	No	1	4
To what extend are you in favor of PIHTC	Extremely in favor	183	65.36
	Very much	75	26.79
	Some what	18	6.43
	Not at all	4	1.42
	I don't know	0	0
At which time should one be tested for HIV?	When one is sick	57	20.36
	Be for married	37	13.21
	If only has multiple partner	14	5
	At any time	171	61.07
Did your TB treatment supervision initiate you for HIV testing and counseling any time during your TB treatment follow - up?	I don't know	1	0.36
Did your TB treatment supervision initiate you for HIV testing and counseling any time during your TB treatment follow - up?	Yes	265	94.64
	No	15	5.36
Have you had HIV testing and counseling following your super vision initiation	Yes	210	79.25
	No	55	20.75
Did you receive counseling be for and after test?	Yes	206	98.09
	No	4	1.91
Were you satisfied with HIV counseling you received	Yes	204	97.14
	No	6	2.86
Do you know the result of your test?	Yes	201	95.71
	No	9	4.29
What were your reasons for not to be tested?	Fear of stigma and disc rumination following result	5	9.09
	Fear of partners reaction	3	5.46
	Unable to cope with the positive result	4	7.27
	I am not risk person for HIV	32	58.18
	Not sure of confidentiality	5	9.09
	Don't want to know the result	4	7.27
	Partners trust	2	3.64
	Other	0	0

In this study all TB patients reported that they have heard of HIV/AIDS. This result is comparable with the results observed among the community in North Gonder [6].

In this study, there was widespread support for PIHTC, with 92.15% of TB patients reporting that they were either Extremely or very much in favour of PIHTC @ A similar result was also reported from a population based study on routing testing in Rwanda, where 81% of the study participants were extremely or very much in favour of routine HIV test [15].

A study done from southeast Ethiopia showed that 24% of TB patients at Adama hospital 2005 were tested PIHTC [16], and institution based study in Addis Ababa in 2006 found that 57.8% of TB patients had been tested for HIV [17].

In addition to the implantation of PIHTC in TB clinics, increased access to ART and HIV testing are likely to be the contributing factors for the relatively high prevalence of testing in this study population [12]. Moreover, High knowledge of TB and HIV association could be the possible explanations for the relatively high prevalence of HIV test.

In this study, primary, secondary and above education of TB patients

were strongly associated with acceptability of PIHTC. Study participants who had primary education, secondary and above education were two times more likely to accept PIHTC than illiterate /read & write. The result of this study is consistent with the findings from other studies.

A study conducted at Kenya reported that the level of education was significant associated with acceptance of PIHTC testing [11]. The association of acceptance of testing and education can be explained by the fact that better educated are better in assessing of testing and may be aware of the benefits of the test and treatment options for TB/HIV co infection.

In addition, in this study patient at the younger age group [18,19] and those who said agreed that anyone should get tested for HIV was also found to be significantly associated with acceptability of PIHTC after adjusted for all independent variables. The later can be explained by having better knowledge on HIV testing enables patients to realize the benefits of testing.

The most commonly cited perceived barriers for PIHTC among respondents who had not been tested for HIV were not being risk person for HIV, fear of stigma and discrimination following the positive result and don't want to know positive result. These findings are similar to findings from studies done on HIV testing in Ethiopia and elsewhere in Africa [20,21].

Conclusion

There was relatively high acceptability of PIHCT in this study which can be taken as constructive in the HIV/AIDS prevention and control program. Patients with HIV related TB must make up a substantial proportion of those reached by ART. There was widespread support for PIHCT in this study. These suggest that PIHCT is beneficial in improving access to testing and thereby increasing lifesaving treatment users. This holds significant promise for the control, prevention and treatment of TB and HIV/AIDS in Ethiopia. Patients of Younger age had better educational status and recognition that anyone should get tested for HIV was found more likely to be tested for HIV following their supervisor invitation in the past. There are still misconceptions about transmission of TB Not being risk person for HIV infection, fear of stigma and discrimination, don't want to know positive result, unable to cope positive result and fear of partner's reaction were found to be the main barriers for acceptance of PIHCT among HIV patients.

Competing Interests

The authors declare that they have no any competing interests.

Author's Contributions

All authors have contribution to the manuscript; all authors read and approved the final manuscript.

Author's Information

AYM is an Assistant Professor at Madda Walabu University and ALW is an Assistant Professor at Madda Walabu University and TE is lecturer at Madda Walabu University, Ethiopia.

Acknowledgments

We are grateful to Madda Walabu University for supporting this study. We are also very grateful to data collectors and study participants to undertake this study.

References

- World Health Organization. Who Report on the Global Tuberculosis Epidemic Geneva: WHO (WHO/TB/98.247);1998.
- World Health Organization. Tuberculosis and Sustainable Development, The Stop TB Initiative 2000 Report (WHO/CDS/STB/2000.4). Geneva; WHO 2000
- World Health Organization. HIV/TB Manual Geneva; WHO, 2004.
- Joint United Nation Program On HIV/AIDS (UNAIDS). AIDS Epidemic Update 2005. Geneva; UNAIDS, 2005.
- Maher, Dermot, Anthony Harries, and Haileyesus Getahun. "Tuberculosis and HIV interaction in sub Saharan Africa: impact on patients and programmes; implications for policies." *TM & IH* 2005; 10: 734-742.
- MOH. Technical Document For 5th Report On ADIS In Ethiopia Addis Ababa; MOH, June 2004
- UNAIDS global reference group on HIV /AIDS and human rights (2004) UNAIDS/WHO policy statement on HIV testing.
- UNAIDS: HIV Voluntary Testing And Counselling: A Gate Way To Privation And Care, Five Case Studies Related To Mother –To –Child Transmission Of HIV, Tuberculosis, Young People, and Reaching General Population Group. UNAIDS Case Study June 2002
- World Health Organization. Guidelines for implementing collaborative TB and HIV programmed activity. Geneva; WHO, 2003
- World Health Organization. The Right to Know: New Approaches to HIV Testing and Counselling. 2003.
- The volunteer HIV testing and counselling study group: efficacy of voluntary HIV -testing and counselling among individual and couples in: Kenya, Tanzania, and Trinidad :A randomize trial *Lancet* 2006; 356: 103-112
- The Federal Ministry of Health of Ethiopia: TB/HIV Implementation Guideline. Addis Abba, July 2005
- Connolly Crate, Reid Abbas, Davis Guestre, Sturm Wamer, Mc Adam Knie Plavan, et al. "Replace and mortality among HIV – infected and uninfected patients with tuberculosis successfully treated with twice directly observed therapy in rural south Africa". *AIDS* 1999; 13: 1543-1547
- United Nations: The millennium Development Goals Report, 2006
- Afrika Gasana, Vandebriel; Grujil. Kabanda, Gabriel, Tsiouris Apostolos, J, Justman Joe, et al. Integrating Tuberculosis and HIV Care in Rwanda. The 2006 HIV/ADIS Implementers Meeting Of The President's Emergency Plan For ADIS Relief, Durban, South Africa, 2006;150
- MOH. Tuberculosis and Leprosy Prevention and Control National Manual. Addis Ababa; MOH,2002
- Maher Droat, Floyd Khee, Ravigloine Morte. "Strategic framework to decrease the Burden of TB/HI". Generally; WHO, 2002
- Ahmed Yassin Mohammed, Luelseged Takele, Sahlemariam Gebresenbet, Emebet Girma, et al., "HIV and tuberculosis co–infection in the southern region of Ethiopia: A prospective epidemiological study". *Scandinavian Journal of Infectious Diseases*. 2004; 36: 670-673
- Amberbir Alemayehu, Kebede Deribe, Wassie Linger. "Uptake of VTC and correlates among women attending ANC: Implication to prevention of Mather to Child transmission of HIV", South West Ethiopia. The Receding Annual EPHA Scientific Conference; Page 1, 2005
- MOH. 5th ADIS Report In Ethiopia, Addis Ababa; MOH, 2004
- Zenebu Yean. Determinant of VCT utilization among youth in jijiga town, ethiopia the proceeding of the annual EPHA Scientific Conference; 2005; 59.

How to cite this article: Tilahun Ermeke, Ahmed Yasin Mohammed, and Abate Lette Wodera. "Acceptability of PIHCT among TB Patients in Bale Robe Hospital, Southeast Ethiopia". *Int J Pub Health Safety* 6 (2021). 217