Uptake of Isoniazid Prevention Therapy and its associated factors among people live with HIV in Bahir Dar town public health facilities, Northwest Ethiopia

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Abstract

Background- *Uptake of Isoniazid Prevention Therapy among people live with HIV is a proven, internationally recommended strategy to reduce Tuberculosis burden among people live with HIV. Despite the considerable benefits of implementing Isoniazid Prevention Therapy to reduce TB among people live with HIV, HIV programs have been slow to implement this TB-reducing service. Our objective was to assess uptake of Isoniazid prevention therapy and its associated factors among people live with HIV in Bahir Dar town public health facilities.*

Method- *Institution based Cross-sectional study was conducted from February to March 2014. A 383 people live with HIV from four ART started public health facilities were interviewed consecutively until the required sample size was reached for each public health facility. Bivariate and Multivariate analysis was done to identify associated factors with uptake Isoniazid prevention Therapy.*

Result- *The proportion of people live with HIV who had ever uptake of Isoniazid prevention Therapy was 30.5%. The respondents those got explanation about benefit of Isoniazid Prevention Therapy were nearly six times more likely uptake of Isoniazid prevention Therapy than their counter parts [AOR=5.51, 95% CI: (3.28, 9.27)]. Those clients who had been more than one year on HAART were nearly two times more likely uptake of Isoniazid prevention Therapy than those who less than six months duration on HAART [AOR=2.45, 95% CI: (1.29, 4.63)].*

Conclusion and Recommendation- *This study revealed that low proportion of people live with HIV had ever uptake of Isoniazid Prevention Therapy but higher than the report of Ethiopian federal minatory of health in 2012. Counseling about Isoniazid Prevention Therapy need special attention and compliance of health care providers regarding Isoniazid Prevention Therapy has to be assessed.*

Keywords-

HIV/AIDS, Isoniazid Prevention Therapy, People Live with HIV, and Tuberculosis

INTRODUCTION

Isoniazid preventive therapy is the uptake of Isoniazid drug by people at high risk of developing active tuberculosis. The World Health Organization recommends IPT as part of the three I's for TB prevention among people live with HIV. Uptake of IPT among people living with HIV is a proven, internationally recommended strategy that has been effectively implemented in low resource settings [1].

World Health Organization recommends that at least 50% of people live with HIV that enrolled in HAART are eligible for Isoniazid prevention therapy. Only 520,000 Worldwide and 30,395 (2.5%) in Ethiopia of people live with HIV were taken Isoniazid prevention therapy in 2012 [2, 3].

People live with HIV infection are at considerably greater risk than the general population of acquiring TB following exposure and also for progression from latent infection to active TB disease. Worldwide there were an estimated 1.4 million new cases of tuberculosis among people live with HIV infection, and TB accounted for 26% of AIDS-related deaths [4].

Worldwide, 14 million people are co infected with active TB and HIV. TB is the leading cause of death for those infected with HIV and implicated in up to one-half of all AIDS deaths [5].

In our setup, Information on uptake of IPT among people live with HIV was not well studied and documented. Therefore, this study was conducted to assess uptake of IPT and its associated factor among people live with HIV.

Materials and methods

Study setting and participants

Institution based cross-sectional study was conducted in all ART started public health facilities in Bahir Dar Town (Felege Hiwote Referral Hospital, Bahir Dar health center, Han health center, and Abay Health Center) from February to March 2014. Bahir Dar Town is the capital Town of Amhara Regional State and located 565km in Northwest direction from Addis Ababa. The study population was all adult PLHIV on ART follow up in public health facilities. The study units were adult PLHIV and eligible for IPT who are getting ART services and selected for interview based on the sampling procedure. All adult live with HIV and eligible for IPT found in the ART started public health facilities and those who were visiting ART clinic during study period irrespective of their sex were included in the study.

Sample size and sampling technique

The required sample size was determined by using single population proportion formula. The following assumptions were considered proportion of uptake of IPT 34.7% [6], 95% confidence level, and 0.05 margin of error. The final sample size was 383 with adjustment 10% non-response rate. This sample size was distributed to health facilities according to proportional allocation. Individual study participants were interviewed consecutively until the required sample size was reached for each health facility.

Data collection process

Two VCT counselors were deployed as data collector and recruited from health facilities other than the study sites to minimize social desirability bias. The data collectors were trained on how to use the data collection questionnaire and how to approach study participants. Data were collected using interviewer administered questionnaire.

Ethical clearance was obtained from Bahir Dar University College of Medicine and Health Science Ethical Committee. Permission to conduct the study in public health facilities was secured from Bahir Dar Town Administration Health office to conduct the study at their respective health facilities. Informed consent

from each study participants was obtained after explaining the purpose of the study. To ensure confidentiality of the information any identification of study participants was not recorded, questionnaires were kept locked, and data collectors kept the information strictly confidential.

Data analysis

Data entry was done using EPI info version 3.5.1. Data clean up was performed to check for accuracy, consistencies and values. Data analysis was performed using SPSS 20 statistical packages. Descriptive statistic was employed for socio demographic characteristics, for uptake of IPT among PLHIV. Both bivariate and multivariate logistic regressions were used. Confidence intervals and P-value were used to measure significance of associations between uptakes of IPT versus independent variables. Stepwise logistic regression was used to control multicollinearity. Variables with $p \leq 0.2$ in the binary logistic regression analysis were entered into multivariate logistic regression analysis then probability values (p) < 0.05 were considered statistically significant.

RESULT

Characteristics of study participants

Nearly two third of study participants 236 (61.6%) were females. The mean age of respondents was 36.4±9.18SD years. More than one third of respondents were between 25-34 years and completed secondary school (grade 7-12) education (145 (37.9%) and 138 (36%) respectively). Regarding their marital and occupational status, almost half and over one fourth of participants were married 177 (46.2%) and unemployed 100 (26.1%) respectively. Majority of participants were Orthodox Christian followers 343 (89.6%) and Amhara ethnic group 349 (91.1%) **(Table1)**

Table 1: Socio-demographic characteristics of PLHIV at ART clinics of public health facilities in Bahir Dar town, Northwest Ethiopia, February 2014

Characteristics	Number of PLHIV (n=383)	Percent
Age in year		
15-24	25	6.5
25-34	145	37.9
35-44	135	35.2
45-54	57	14.2
55-75	21	5.5
Ethnicity		
Amahara	349	91.1
Agew	11	2.9
Others"	23	6
Educational Status		
No formal education	91	23.8
Primary(grades1–6)	64	16.7
Secondary (grade 7 - 12)	138	36.0
Post-secondary(grade above 12)	90	23.5
Marital status		
Married	177	46.2

Divorced	79	20.6
Single	75	19.6
Widowed	52	13.6
Religion		
Orthodox	343	89.6
Muslim	28	7.3
Others""	12	3.1
Occupation		
Unemployed	100	26.1
Housewife	99	25.8
Government employed	92	24.0
Merchant	57	14.9
Farmer	20	5.2
Others"""	15	3.9
Sex		
Female	236	61.6
Male	147	38.4

(Others)"Tigre, Oromo, Gurage **(Others)""**Catholic, Protestant **(Others)"""**Daily worker, Driver

Uptake of IPT among PLHIV

The proportion of PLHIV who had ever uptake of IPT was 117 (30.5%) and 93 (79.5%) of them obtained their drugs from HIV clinics and 10 (9%) of study participants from other places. About 114 (29.8%) of respondents did not take IPT because of health care providers did not prescribe the drug and 55 (14.4%) did not take due to fear of side effects **(Table2)**.

Table 2: Uptake of IPT among PLHIV at ART clinics of public health facilities in Bahir Dar town, Northwest Ethiopia, February 2014

Variables	**Number of PLHIV**	**Percent**
Uptake of IPT (n=383)		
Yes	117	30.5
No	266	69.5
Placement of the drug for IPT to be collected (n=117)		
HIV clinic	93	79
TB clinic	14	12
Other place	10	9
The reasons for not uptake of IPT (n=266)		
Care takers don't order	114	29.8
Fear of side effect	55	14.4
I don't know	75	19.8
Other reasons	22	5.7

Factors associated with uptake of IPT among PLHIV

The logistic regression analysis identified the presence of significant association with duration of stay on HAART and explanation given about IPT with uptake of IPT. The respondents those got explanation about IPT were six times more likely uptake of IPT than their counter parts [AOR=5.51, 95% CI: (3.28, 9.27)]. Those clients who had been more than one year stay on HAART were found to be two times more likely uptake of IPT than those who less than six months on HAART [AOR=2.45, 95%CI:(1.29,4.63)]**(Table3)**

Table 3: Association between uptake and related factors among PLHIV in Bahir Dar town public health facilities, Northwest Ethiopia, February 2014

Variables	Uptake of IPT		Crude Odds Ratio (95%CI)	Adjusted Odds Ratio(95%CI)
	Yes(117)	No (266)		
Duration of stay on HAART				
Less than six months	22	91	1.00	1.00
Six month-one year	29	79	1.52(0.81-2.85)	1.34(0.65-2.77)
More than one year	66	96	2.84(1.62-4.99)	**2.45(1.29-4.63)****
Information given by health professionals about IPT				
Yes	86	82	6.23(3.83-10.12)	**5.51(3.28-9.27)****
No *	31	184	1.00	1.00

* References **Significant at P-value<0.05

Discussion

This study reveled that the overall proportion of PLHIV who had ever uptake of IPT was 30.5%. This finding was consistent with two studies conducted in Addis Ababa (32% and 28.5%) [6, 7]. This could be there is no national protocol of doing Tuberculin Skin Test for PLHIV before enrolled to IPT. However, not use of Tuberculin Skin Test could reduce the number of patients receiving IPT [8]. The other reasons for low uptake of IPT in the current study could be fear of drug resistance by some clinicians, and fear of side effect by the patients [2, 9]. Which is contrary to the WHO recommendations for uptake of IPT among PLHIV reaffirming concerns regarding the development of drug resistance should not be a barrier for uptake of IPT among PLHIV [8].

Those who were stay more than one-year duration on HAART were two times more likely uptake of IPT than those who were less than six months duration on HAART. This might be because of as people stay longer on HAART learn more about IPT, TB infection prevention measures, and they became more and more aware of their health conditions.

The respondents those got explanation about benefit of IPT were nearly six times more likely uptake of IPT than their counter parts. This finding is more or less similar with study conducted in Addis Ababa [10]. This might be explained by the fact that perceived benefit of medication.

Conclusions and Recommendation

This study were identified that lower proportion of PLHIV had ever uptake of IPT in the Bahir Dar town ART started public health facilities but higher than the report of FMOH in 2012. Explanation given from health professionals about benefit of IPT and duration of stay on HAART were significantly associated factors with uptake of IPT. Counseling about IPT need special attention and compliance of health care providers regarding with IPT has to be assessed

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About author

Mr. Demelash Woldeyohannes was born in Hossana town, southern Ethiopia and graduate of BSC in nursing from Jimma University in 2009 and Master of public health from Bahir Dar University in 2014 and a total of three years experience before and after joining Post graduate study as director of primary health care unit.

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