



Contact Screening and Isoniazid Prophylaxis of Children under Age Five among Pulmonary Positive Tuberculosis Patients in Bahir Dar Special Administrative Zone, North-West Ethiopia.

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Administrative Zone, North-West Ethiopia.**

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Abstract

Introduction: Tuberculosis is a Chronic necrotizing disease caused by Mycobacterium tuberculosis complex. Children are highly susceptible to tuberculosis infection and disease contacted with pulmonary positive tuberculosis patients. Up to seventy percent of children living in the same household with infectious tuberculosis patients will become infected. Thus, early contact screening and Isoniazid prophylaxis is a preventive mechanism for under five children who had contact with pulmonary positive tuberculosis patients.

Objective: The objective of this study was to assess contact screening and isoniazid prophylaxis of children under age five among pulmonary positive tuberculosis patients in Bahir Dar special administrative zone, north-west Ethiopia.

Methods: A facility based cross sectional study design was conducted from March 1-30/2016 in Bahir Dar special administration zone, Amhara Region. Interviewer administered questionnaire was used and 255 Pulmonary positive tuberculosis patients who had under five year children were interviewed about contact screening & Isoniazid prophylaxis for their under five children. Epi data version 3.1 was used for data entry and SPSS version 20 was used for analysis. Each independent variable was assessed for statistically significant association with the dependent variables in bivariate analysis. Those variables found less than 0.25 p-value by bivariate analysis were entered into multiple Logistic regression to identify statistically significant independent factors when the effect of other variables is adjusted. Adjusted odds ratio at 95% CI and p-value of less than 0.05 are presented.

Results: - About 255 PTB⁺ patients were interviewed and 260 under five children were identified. Of them 149 (57.3 %) were screened for TB disease and 11 (4.2 %) were developed disease. From disease free contacts and those screened, 44 (16.9 %) were started IPT. Contact screening was associated with attitude towards contact screening (P =0.001). Contact screening was higher among females (AOR=5.3, 95% CI, (1.2, and 23.2)) and HIV positive patients were nineteen times more likely to screening adherence (AOR =19, 95 % CI: (2.1, 16.87). IPT was also associated with relationship of index cases with contacts (AOR= 0.1, 95 % CI: (0.01, 0.5)) and knowledge towards TB and IPT (P < 0.001).

Conclusion: - Under five children contact screening and IPT is low in Bahir Dar special zone. Those participants who got contact screening and IPT information were only from HCWs. HCWs should increase patients' knowledge & creating positive attitude towards under five contact screening and IPT. Health facilities should give contact screening and Isoniazid preventive therapy information of contacted under five children for every PTB⁺ patients and need strict follow up of them.

Key words: - Contact screening, INH prophylaxis, under five children, Ethiopia

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List of Abbreviations

AFB	Acid fast bacilli
AIDS	Acquired Immunodeficiency Syndrome
ARHB	Amhara Regional Health Bureau
BCG	Bacilli Calmette-Guerin
CSA	Central Statistics Agency
DOTS	Directly Observed Treatment Short Course
EFMOH	Ethiopian Federal Ministry of Health
EFY	Ethiopian Fiscal Year
FMOH	Federal Ministry of Health
HCS	Health Centers
HCWs	Health Care Workers
HIV	Human Immunodeficiency Virus
INH	Isoniazid
IPT	Isoniazid Preventive Therapy
NTP	National tuberculosis program
PTB ⁺	Pulmonary Positive Tuberculosis
TB	Tuberculosis
WHO	World Health Organization

CHAPTER ONE

1. INTRODUCTION

1.1. Background

Tuberculosis is a Chronic necrotizing disease caused by Mycobacterium tuberculosis complex (1). The species commonly involved are M. tuberculosis, M.bovis, M. Africanum and M.microti. M.Tuberculosis is by far the commonest(1). It is most commonly transmitted through an airborne route (2). Ninety percent of the transmission occurring in the community is by patients with pulmonary TB smear positive cases (3). It is estimated that, a single pulmonary TB patient can infect 10 to 15 individuals in contact with him/her per year (4). Up to seventy percent of children living in the same household with infectious TB patient will become infected, and more than twenty percent of them will develop active TB disease, usually within 1 year (5).

It is estimated that one third of the world's population is infected with M. tuberculosis and each year, about nine million people develop TB, of whom about one million (11%) occur in children (under 15 years of age) and about 2 million die . worldwide, the reported percentage of all TB cases occurring in children varies from 3% to more than 25%.(6).

Tuberculosis is one of the leading infectious diseases in Ethiopia. In 2014/2015, a total of 135,831 TB cases (all forms) were reported. Of this, thirty-five percent were bacteriologically confirmed pulmonary TB cases (7).

Children living in close and prolonged contact with smear-positive pulmonary TB are at high risk of TB infection and disease (8).Screening for TB infection and providing treatment to prevent progression to active disease are important in the ultimate elimination of tuberculosis(9). INH is used for all under five children with infection who have not yet developed disease and had household contacts with sputum smear-positive TB (10). WHO recommends IPT in daily base for at least 6 months (11). Disease progression can be halted by using INH up to 93% for under five children (12) and 59% among children aged 15 years or younger (13). Health care workers are responsible to inform patients to bring their children for screening but not routinely done and sometimes they are not volunteer to prescribe INH prophylaxis (14,15).

1.2. Statement of the problem

Tuberculosis causes ill-health among millions of people each year and ranks as the second leading cause of death from an infectious disease worldwide (16). Worldwide every second a person is infected with tuberculosis and every 15 seconds someone dies as a consequence of tuberculosis(17). Childhood TB is a significant cause of morbidity, mortality, and health care expenditure (8). Over 500,000 children were newly diagnosed with tuberculosis disease in 2012, and 74,000 died (18). In 2013, the largest number of new TB cases occurred in the South-East Asia and Western Pacific Regions, accounting for 56% of new cases globally(19). However, Africa carried the greatest proportion of new cases per population with 280 cases per 100 000 population in 2013. In 2013, an estimated 550 000 children became ill with TB and 80 000 HIV negative children died of TB globally (19). In 2014, TB killed 1.5 million people and 140000 were children (20).

Childhood TB has been neglected for years despite the fact that children are at high risk of acquiring TB infection and die of TB disease (21). Exposure to TB at home was 66% excess mortality compared with community control children not exposed to TB at home (22).

Childhood TB contributes significantly to the global TB case load (15–20% of cases(23). Nearly 8-20 per cent of the deaths caused by tuberculosis occur in children (24).

High-burden countries have reported extremely poor compliance with screening and initiation of IPT because of limited awareness of its benefits and inability to perform prerequisite screening tests. Rates for the initiation of isoniazid preventive therapy in eligible children ranging from 1.3 to 26% have been reported in settings where tuberculosis is endemic (25,26).

In Ethiopia, childhood TB is still a major cause of hospital admission and death (27). In 2014, of new cases notified in Ethiopia, fourteen percent were pediatric TB cases (28).

The funding required for a full response to the global TB epidemic in low- and middle-income countries is estimated at US\$ 8 billion per year in 2015. Based on self-reporting by countries, funding for TB prevention, diagnosis and treatment reached US\$ 6.6 billion in 2015, more than double the level of 2006 (US\$ 3.2 billion) (29).

In 2014 Ethiopia expensed around 43.5 million US\$ for TB program which was covered both by the country and international funders (27).

Contact tracing, investigation and prophylaxis of childhood contacts of adult TB cases are widely recommended but rarely practiced in developing countries (5).

Even though contact screening and IPT is important and the national TB program suggested routine INH prophylaxis for those who have contacted with PTB⁺ patients(10), no research was conducted to check whether this TB program is practiced properly or not in the study area as well as in Ethiopia.

That's why this study was planned to assess contact screening and INH prophylaxis practice of children under age five among PTB⁺ patients in Bahir Dar special zone, North-west Ethiopia.

1.3. Significance of the Study

This study will help to provide information for policy makers, governmental and nongovernmental organizations about contact screening and INH prophylaxis practice of underage five year children to prevent them from TB infection, disease and death. It will help to aware the concerned body to take appropriate action based on this findings. The study will help to understand the level of patients' practice towards contact screening & INH prophylaxis for their under five children and level of commitment of HCWs towards screening & IPT. Moreover, this study will also useful resource for further researches since limited researches were conducted concerning to this program in the Amhara region and in Ethiopia.

Research questions

1. Do PTB⁺ patients bring their under-five children for TB screening?
2. Do PTB⁺ patients allow INH prophylaxis for their under-five children?
3. Do HCWs inform patients for contact screening and IPT availability of under five children?

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Literature Review

2.1.1. Practice towards Contact Screening and INH Prophylaxis

A study in India reported that, among the 220 contacts aged 0–14 years, only 31 (14%) had been screened for TB disease. Of the 55 patients who had children aged <6 years, only 15 (27%) stated that they had been informed about the provision of IPT for their children. Among children aged <6 years, only 16 (19%) had been initiated on IPT, with no difference between rural and urban groups(30). In another study in India reported that, a total of 172 children, <6 years of age who were determined to be household contacts, 116 (67.5%) contacts were screened for TB infection & disease, none were found to have TB disease, and 97 (84%) of them were on IPT(31).

Of 1,091 identified index cases in a study conducted in Vietnam, there were 4,118 household contacts, screening mainly relied on self-referral by household contacts. Of, 474 (11.5%) self-referred for TB screening, while this screening proportion was only 5.5% among contacts under 5 years old (16/293) (32).

In Indonesia, 242 tuberculosis patients recruited to cohort study and interviewed. These patients had 437 children (<15 years) contacts who were eligible for screening. 34 of the 437 (7.8%) children contacts returned to the study clinic for screening within 3 months of the adult patient's diagnosis. Six of 15 children (40%) younger than 5 years who were eligible for isoniazid preventive therapy actually received it. Screening of household contacts of sputum-smear-positive tuberculosis cases is encouraged but is not subsidized for children in Indonesia(15).

Thailand, contact investigation is still not routinely done but it is performed by physician provide education and recommend the active TB cases to bring their household to TB clinic for investigation. However, most of them do not bring their household contacts under 15 years old to the TB clinic (33).

In Thailand, screening compliance was 52%. Participants who were family member were more likely to bring their household contacts to the TB clinic than the head of the household (OR=1.73, 95%CI=1.11-2.69) but household contact screening was not significantly associated with gender, age, educational level, relationship with contacts(33).

A study conducted in Western Cape Province of South Africa in Suburb, of 171 under five children contacted with PTB+ patients, 155 (91%) were came to health facility for evaluation. From those evaluated, 81 (52%) were not infected, 22 (14%) infected and 52 (34%) were developed disease (34).

A study conducted at a high TB-HIV burden primary health community clinic in Cape Town a total of 1094 adult TB case folders were reviewed. From all identified contacts, 149 of under five children should have received IPT based on local guidelines; in only 2/149 IPT was initiated which is below 2% (25).

In a survey in South Africa, about 70% of child TB contacts were completely asymptomatic at the time of screening. This suggests that asymptomatic high-risk contacts should be offered immediate access to preventive therapy even if additional screening tests are unavailable (35).

In Nigeria a 27 pulmonary positive patients were screened 78 under 15 years children who are found in their houses and (38/78 [53%]) of children were TST positive but none of them took INH prophylaxis (36).

In Malawi, of 365 under five children who had household contacts of TB patients, only 33 (9%) were actually screened for TB: 23 (6%) received IPT, 6 (2%) received anti- TB treatment, and, in 4 (1%), no action was taken (14). In another Malawian study, of actively screened child contacts, 39% of children came to the hospital for screening, of which only 40% (16% of total) returned for screening results or medication (26).

A study done in Northern Ethiopia, the overall that pulmonary positive and pulmonary negative household contact screening adherence was 33.7% (141 out of 418) in Amhara region but pulmonary positive contact screening was 46.3% (76 out of 164). The adherence level differed in HIV infected and HIV uninfected patients; being 35.3% and 34.2% respectively. This difference was not significant (p-value = 0.354). But, relationship of the index case with contacts had significant association (p = 0.03)(37).

2.1.2. HCWS Related Factors Affecting Screening and INH Prophylaxis

A survey conducted by the National Tuberculosis Programme in Malawi, Of 659 smear-positive pulmonary tuberculosis patients, 267 (41%) had a total of 365 young children; but only 56 (21%) adult patients had been informed about childhood screening (14).

.In a study conducted in Indonesia on 34 clinical staff's knowledge and attitudes towards child contact management, all staff agreed that child contacts should be screened but only 29% agreed that disease-free child contacts younger than 5 years should receive isoniazid preventive therapy. The development of multidrug resistant tuberculosis due to isoniazid preventive therapy was a major concern. (15).

In a study conducted in India, Patients who were informed by HCWs to screen all close contacts for TB were less than 24 % and among those patients with young child contacts (< 6 years), only a quarter had been informed of the availability of IPT for these children (30).

In Thailand, doctors were reluctant to initiate therapy due to concerns about Isoniazid toxicity and resistance. Thai doctors cited fears of adverse events and expressed concern over an increase in resistance to INH and a lack of resources to conduct proper screening (33).

The knowledge, attitudes and practices of contacts and TB patients influence their ongoing participation in contact investigation. There was strong acceptance of TB contact investigation believing the program to be beneficial.(38)

In a study conducted in Amhara region, patients who took health education from HCW were three times (AOR = 3.2(95% CI: 1.9, 5.5) more likely to adhere to contact screening as compared to patients who did not take health education(37).

In the United States of America, medical graduates did not believe isoniazid preventive therapy was protective against disease progression (39).

2.1.3. Patients Knowledge and Attitudes

In Thailand, contact investigation is still not routinely done but it is performed by physician provide education and recommend the active TB cases to bring their household to TB clinic for investigation. However, most of them do not bring their household contacts under 15 years old to

the TB clinic (33). The household contact screening adherence of the TB patients was significantly associated with a good knowledge of TB (OR=4.94, 95%CI=3.08-7.91), a high perceived susceptibility (OR=11.93, 95%CI=7.05-20.19), a high perceived severity (OR=10.06, 95%CI=6.02-16.82), a high perceived benefit (OR=6.69, 95%CI=4.08-10.97) (33).

Malawian study found that, despite the provision of clear information to sputum smear-positive TB cases in the local language and using illustrations, only 8% of child case contacts were brought for screening (40).

A study in Ethiopia, of 410 participants, 79.3% responded that transmission of TB would be preventable and 80% knew that TB can be transmitted from a patient to another person and 15.6% didn't know whether it can be transmitted or not (41).

In a study in Eastern Amhara region of Ethiopia, Inhaled droplets through coughing and sneezing were recognized as the common source of TB infection that was recognized by 79.9% of 422 respondents & 281 (66%) respondents considered covering their mouth and nose as the most commonly used method for preventing the spread and transmission of TB (42).

2.2. Conceptual Frame Work

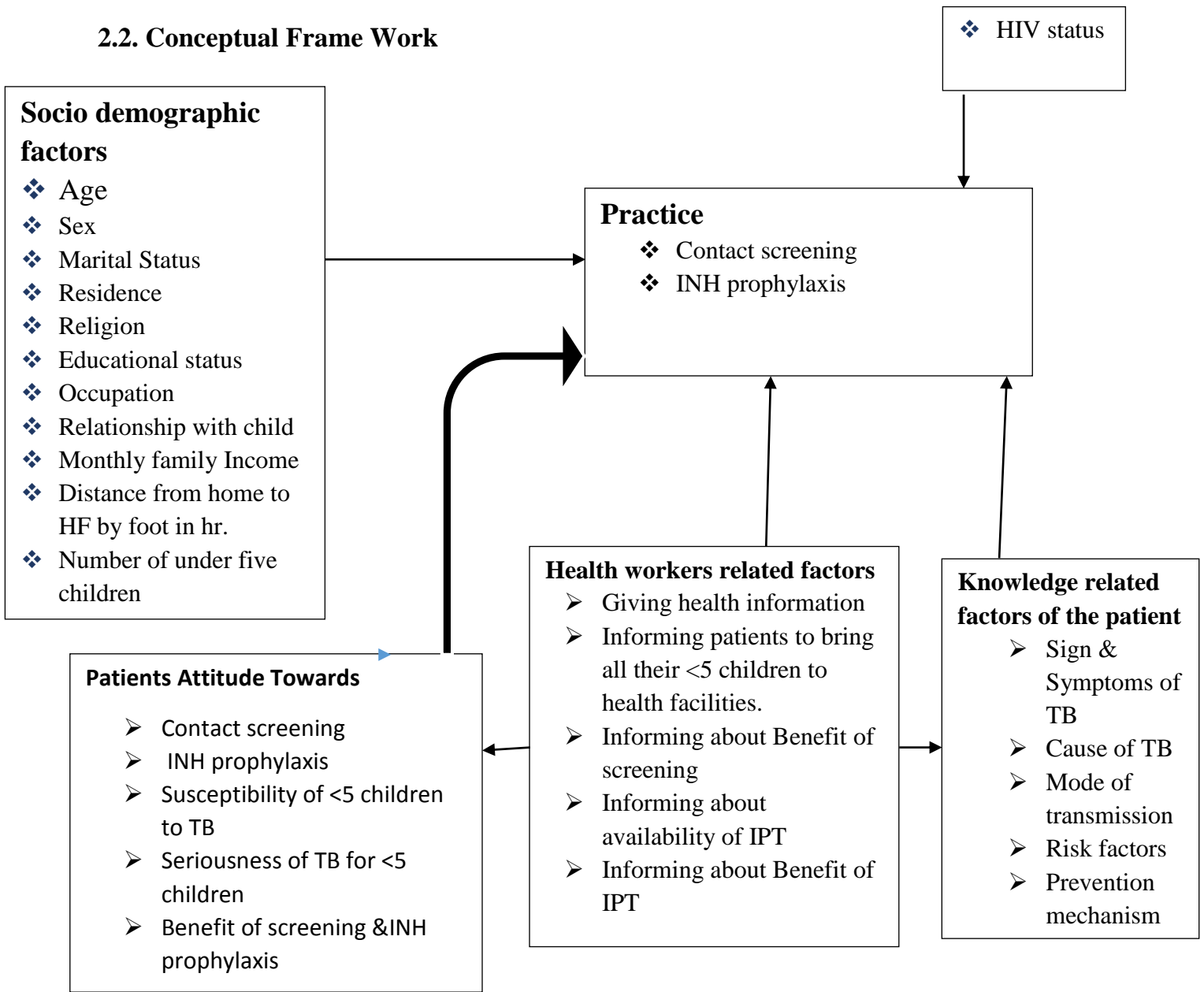


Figure 1: Conceptual Frame Work, Developed From Different Literatures from February – June 2016

(References: - KAP towards childhood TB in guardians of patients visiting pediatric OPD, Sirindhorn hospital, Bangkok, 2009, Household Contact Screening Adherence among Tuberculosis Patients in Northern Ethiopia, 2015, Tuberculosis Contact Screening and Isoniazid Preventive Therapy in a South Indian District, 2011, Management of children exposed to Mycobacterium tuberculosis: a public health evaluation in West Java, Indonesia, 2013)

CHAPTER THREE

3. OBJECTIVES

3.1. General objective

To assess contact screening and Isoniazid prophylaxis Practice and associated factors of children under age five among pulmonary positive tuberculosis patients in Bahir Dar special zone, Amhara regional state, North-West Ethiopia, 2016.

3.2. Specific objectives:

- ✚ To assess contact screening practice of children under age five among pulmonary positive tuberculosis patients
- ✚ To determine isoniazid prophylaxis practice of children under age five among pulmonary positive tuberculosis patients
- ✚ To identify factors affecting contact screening practice of children under age five among pulmonary positive tuberculosis patients
- ✚ To identify factors affecting isoniazid prophylaxis practice of children under age five among pulmonary positive tuberculosis patients

CHAPTER FOUR

4. METHODS AND MATERIALS

4.1. Study area

The study was conducted in Bahir Dar special administration zone in Amhara regional state. Bahir Dar is situated on the southern shore of Lake Tana, the source of the Blue Nile. The city is located approximately 565 km northwest of Addis Ababa, having an elevation of about 1,800 meters (5,906 feet) above sea level. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), Bahir Dar Special Zone has a total population of 221,991, of whom 113,535 were women; 180,174 (81.16%) were urban inhabitants, the rest of population were living at rural kebeles around Bahir Dar. At the town of Bahir Dar there were 155,428 inhabitants; the rest of urban population was living at Meshenti, Tis Abay and Zege towns which are part of Bahir Dar Special Zone.

According to Amhara regional health bureau 2007 EFY report, around 23307 TB cases of all forms annually notified in Amhara region and around 5780 were bacteriologically confirmed PTB cases.

In Bahir Dar special zone, there were around 989 TB patients of all forms and of this around 45% were pulmonary positive tuberculosis patients in the first quarter of 2008 EFY. In this zone, there were eighteen governmental health facilities which were giving directly observed treatment services (four hospitals and fourteen health centers).

4.2. Study Period

The study was conducted from March 1-30/2016.

4.3. Study Design

A facility based cross sectional study design was used to assess contact screening and INH prophylaxis practice of children under age five among pulmonary tuberculosis patients

4.4. Source population

All pulmonary positive tuberculosis patients who had under five children were source population of the study.

4.5. Study population

The study population were all selected pulmonary positive tuberculosis patients who had under five children.

4.6. Inclusion and exclusion criteria

4.6.1. Inclusion criteria

All pulmonary positive TB patients who had under five children at home and age greater than or equal to eighteen years were involved.

4.6.2. Exclusion criteria

Pulmonary positive tuberculosis patients who were severely ill and who were in jail were excluded from the study.

4.7. Sampling procedures

All health facilities (4 hospitals & 14 health centers) in Bahir Dar special administration zone which were giving DOT services were included. From this health facilities, around 267 PTB⁺ patients who had house hold contacts of under-five children were found. All pulmonary positive tuberculosis patients (census) who had under five children were listed from TB treatment registration book and interviewed accordingly. But there were PTB⁺ patients who didn't register their contacts (under five children) from registration book. Due to this reason, every day we were collected all PTB⁺ patients at morning and selected those who had under five children at home for interview. Patients' TB treatment card were used for identification of those pulmonary positive cases.

4.8. Study variables

Independent variables

- Age
- Sex
- religion
- Marital Status
- Residence
- Educational status
- Occupation
- Household income
- Relationship with child
- Number of under five children
- Age of <5 children
- HIV status
- Health Facilities
- Knowledge towards TB, screening & IPT
- Attitude towards contact screening & IPT
- HWs related factors

Dependent variables

- Contact screening practice
- INH prophylaxis practice

4.9. Data collection and measurements

Interviewer administered questionnaire was used to collect the data. The questionnaire included socio-demographic, Knowledge of patients on tuberculosis, contact screening & INH prophylaxis, Attitude of PTB⁺ patients towards contact screening & INH prophylaxis and health workers related questions. Questionnaires were developed from different literatures ((15),(37),(43),(44)) and prepared in English originally and was translated into local language (Amharic) and then translated back to English to check consistency before data collection.

The knowledge part consisted of fifteen yes/No questions and individuals response which were coded as 1 and 0 for “yes” and “No” answers respectively and their total score for the questions were summed up and weighted out of fifteen. Then this weighted score were presented as continuous variable and used for analysis. The same to this, attitude part consisted of five items in five point Likert scale. Score of individuals for each item were summed up ranged from 5 minimum to 25 maximum total score after reverse coding for negatively worded items and this was treated as continues variable for analysis.

The data collection took place by four college completed BSc and clinical nurses and one health officer supervisor.

4.10. Data quality assurance

The questioners were translated from English to the local language (Amharic) and were re-translated back to English by another translator to check consistency of the questioners. It was also pretested from 5% related participants in Merawi town which is found 32 km far from the study area before conducting the original one. Training was given for data collectors about the data collection tool and how to collect data, to have common understandings. Each day questionnaires were checked for completeness during data collection. Data were cleaned and checked for outliers before analysis. Reliability test was checked using Cronbach’s’ alpha of 0.6 as cut off point for attitude and knowledge items and the result were 0.87 and 0.74 respectively.

During data collection, those children who were screened and started INH prophylaxis & anti-TB treatment were cross checked from INH prophylaxis and anti TB treatment registration books respectively.

4.11. Data processing and analysis

After data collection, the questionnaires were checked for completeness and consistency, retranslated to English from Amharic and then the data was entered into EPI data version 3.1. The data were coded and checked, finally exported to a statistical package for social science (SPSS) version 20 soft-ware for analysis purpose. The data were analyzed using SPSS version 20 software. Descriptive statistics were done to describe the study variables. Each independent variable was assessed for statistically significant association with the dependent variables in bivariate analysis at 95% confidence interval and p-value of <0.25. Those variables whose p-

values less than 0.25 during the bivariate analysis were fitted to the final multiple logistic regression analysis (by using back ward LR method) to adjust for potential confounders. In the final model, a p-value < 0.05 was considered as statistically significant. Goodness of fit of the final models were checked using Hosmer and Lemeshow test of goodness fit for contact screening and isoniazid prophylaxis and the results were 0.86 and 0.26 respectively. Significant independent variables were declared by adjusted odds ratio at 95% confidence interval and P-value of less than 0.05.

4.12. Operational definitions and definition of terms

4.12.1. Definition of terms

Index cases: - infectious cases (PTB⁺) who are source of infection for tuberculosis(45).

INH prophylaxis or IPT: is the provision of the drug isoniazid for primary infection in order to sterilize lesions and prevent active tuberculosis development for people at high risk(10).

Smear-positive pulmonary TB (PTB⁺)

- ✓ A patient with at least two initial sputum smear examinations positive for AFB by direct microscopy,

Or

- ✓ A patient with one initial smear examination positive for AFB by direct microscopy and culture positive,

Or

- ✓ A patient with one initial smear examination positive for AFB by direct microscope and radiographic abnormalities consistent with active TB as determined by a clinician(1)

TB contacts:-is defined as living in the same household with sputum smear-positive pulmonary TB cases (46)

Tuberculin or PPD – a liquid that is injected into the skin on the lower part of arm during TB skin test(21)

4.12.2. Operational definitions

Household contact screening: - screening of under five children from tuberculosis infection and disease, who had contact with infectious index cases (PTB⁺) at home.

Knowledge of contact screening and IPT- measured by summed score of items approaching the maximum sum scores consider as had high influence and to minimum sum scores as had low influence on contact screening and IPT of under five year children.

Attitude towards contact screening and IPT- attitude items on 5-point Likert's scale approaching to the maximum sum of scores considering as had high influence and to minimum sum scores as had low influence on contact screening and & IPT of under five children.

4.13. Ethical consideration

Ethical approval was obtained from Ethical Committee of Jimma University, school of Graduate studies and was requested a co-operation from Amhara regional state health bureau. A support letter was obtained from Amhara Regional Health Bureau and Bahir Dar Zonal Health Department for each health facilities. During data collection informed oral consent was requested from the study participants after they were introduced the objective of the study and informed about their rights to withdraw the interview at any time. Privacy and confidentiality was maintained during and after data collection.

4.14. Dissemination of the study result

The final result of this study will be presented to Jimma University, College of health science, department of health education and behavioral science and then disseminated to Amhara regional health bureau, Bahir Dar city administration health department and other concerned governmental and nongovernmental organizations. Results will be presented in different workshops, seminars and finally efforts will be made to publish the paper on the International Journal of Tuberculosis and Lung Disease.

CHAPTER FIVE

5. RESULTS

5.1. Socio-Demographic Characteristics of Study Population

A total of 255 pulmonary positive tuberculosis patients who had house hold contacts of under five children were interviewed with response rate of 95.5 %.Out of 255, 131 (51.4%) were males and 168 (65.9%) were urban dwellers. About 212 (83.1 %) of respondents were from health centers and more than half of the respondents, 134 (52.5) were married (Table 1). The mean age of respondents is 31.44 years, \pm SD 9.56 with range of 18-59 years.

Table 1. Socio Demographic Characteristics of Respondents on Contact Screening and Isoniazid Prophylaxis, In Bahir Dar Special Zone, from February –June 2016, (N = 255)

Variables	Variable category	Number	%
Sex	Male	131	51.4
	Female	124	48.6
Religion	Orthodox	239	93.7
	Others*	16	6.3
Residence	Urban	168	65.9
	Rural	87	34.1
Marital status	Married	134	52.5
	Single	101	39.6
	Widowed	13	5.1
	Divorced	7	2.7
Educational status	No formal education	75	29.4
	Primary school education(1-8)	100	39.2
	Secondary school educated (9-12)	71	27.8
	College/University education	9	3.5
Occupation	Farmer	50	19.6
	Merchant	41	16.1
	Student	36	14.1

	Housewife	32	12.5
	Daily laborer	27	10.6
	No work	26	10.2
	Government workers	20	7.8
	Others**	23	9.0
House hold income *#	≤ 370 Eth birr	64	25.1
	371-600 Eth birr	70	27.5
	601-1050Eth birr	60	23.5
	>1050 Eth birr	61	23.9
Distance from home to HF by foot in Hr.	≤ ½ hour	160	62.7
	>1/2 hour	95	37.3

*---Muslims & Protestants

**---shoe shiners, housemaid, beggars, drivers

*# ---I used quartile for income classification

5.2. Under Five Children Related Information

From a total of 255 pulmonary tuberculosis patients interviewed, 260 house hold contacts of age under five years were identified. Out of 260, 92 (35.4 %) children were greater than two years and 79 (30.4 %) were less than one year (fig 2). About 153 (60 %) of the index cases were parents of the contacted under five children, 5(2 %) of respondents had two under five year contacts at home.

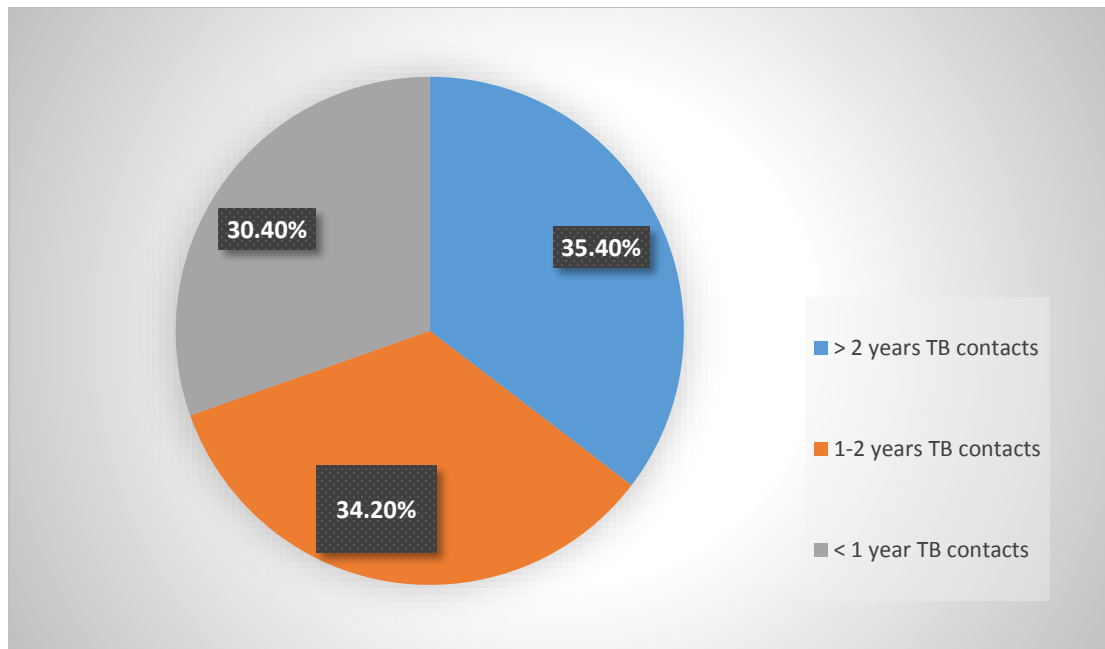


Figure 2: Number of Contacted Under Five Children with Age Distribution, In Bahir Dar Special Zone, from February-June 2016, (N =260)

5.3. Knowledge of Respondents

Out of 255, 192 (75.3%) answered that tuberculosis is transmitted through air during coughing and sneezing but only 142 (55.7 %) of respondents knew that cause of tuberculosis is bacteria.

Table 2: Knowledge of Participants towards Tuberculosis, in Bahir Dar Special Zone, From February- June 2016 (N=255)

Variables	Category	Number	%
Definition of TB	Cough \geq 2 weeks	252	98.8
Cause of tuberculosis	Bacteria	142	55.7
Way of transmission of tuberculosis	Air born	192	75.3
Risk groups for tuberculosis infection at home	< 5 children	205	80.4
< 5 children can be prevented from TB infection at home		164	64.3
Prevention mechanisms	separation of bed room	118	46.3
	Using mask	86	33.7
	separation of bed in same room	80	31.4
	Opening window at day time	62	24.3
	separation of home	57	22.4
	Others*	20	7.8

*separation of drinking & eating utensils, using tissue paper & sleeves during coughing & sneezing, not spit out sputum every where

In general, about half of the respondents, 128 (50.2%) are below the mean score (9.7 out of 15) of knowledge

With respect to under five years contact screening, most 230 (90.2 %) have heard about screening and got this information from health care workers but only 81 (31.8 %) of respondents heard that under five children contacted with the index case should take IPT. Out of 81,71 (27.9 %)knew benefit of IPT (Fig 3) and 65 participants answered for a question, “who will take IPT at home?” that asymptomatic under five children who had contact history.

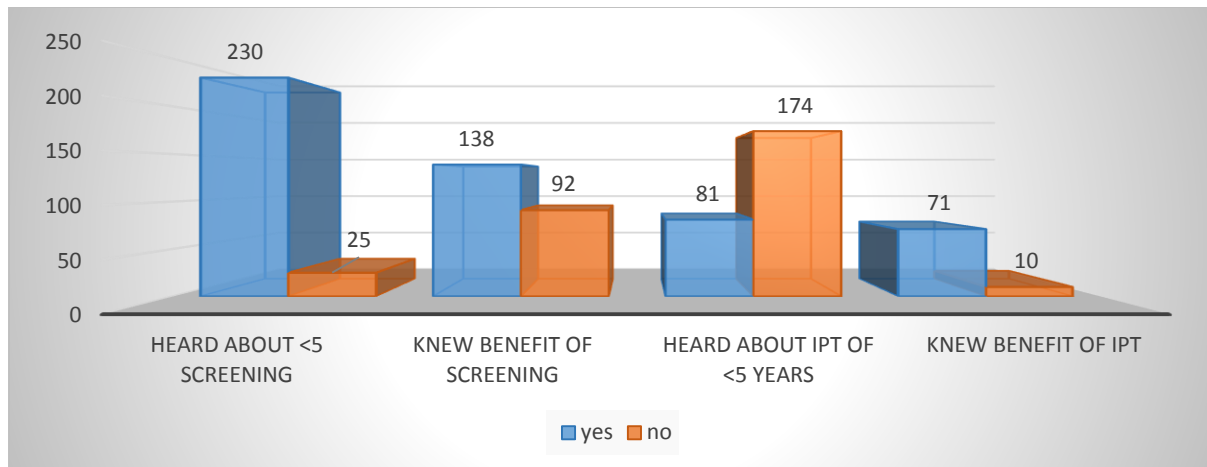


Figure 3: Contact Screening and IPT Knowledge of Index Cases for contacted Under Age Five Children, In Bahir Dar Special Zone, from February-June 2016 (N = 255).

5.4. Patient's Attitude and Practice towards under Five Children screening and IPT

Majority 192 (75.7 %) of respondents agreed that under five children are more susceptible for tuberculosis infection. About 152 (59.6 %) of participants agreed that bringing under five children for screening to health facility without developing sign and symptoms but only 57 (22.7 %) of participants agreed that starting isoniazid preventive therapy without sign and symptoms. The mean score of attitude was 17.8 out of 25 total score (ranged from 5 minimum to 25 maximum).

The overall house hold contact screening and isoniazid prophylaxis practice of under five children in Bahir Dar special zone was 57.3 % (149 out of 260 children) with 95 % CI (46.7, 67.3) and 16.9 % (44 out of 260 children) with 95 % CI (13.6, 20.4) respectively (table 3).

However, out of 230 participants who had contact screening information from HCWs, 149 (64.8 %) with 95 % CI (58.3, 71.1) brought their children to health facility for screening and from those screened 149 children, 44 (29.5 %) with 95 % CI (22.1, 36.2) were started Isoniazid preventive therapy.

Table 3: Screening Results, Actions Taken After Results And Reasons For Not Screened Under Five Children, In Bahir Dar Special Zone, from February – June 2016.

Variables	Categories	Number	%
Under five years children screened	yes	149	57.3
	No	111	42.7
Screened result	No disease	138	53.1
	Disease developed	11	4.2
Actions taken after screening result of children	No thing	52	20
	Started single drug for six month	44	16.9
	Returned back with appointment	35	13.5
	Started combination of drugs for six month	11	4.2
	Refusals	7	2.7
Participants reason for not screened child	Not sick	33	12.7
	Family not allowed	32	12.3
	Others*	16	6.2

*---Forgot, HCWs didn't give attention

5.5. Factors Associated With House Hold Contact Screening of Under Age Five Children

In the bivariate logistic regression analysis, contact screening of under-five year children was significantly associated with sex of respondents, residence, HFs, HIV status, age of the contacted under five year child, relationship of the index case with the contact, screening benefit told by HCWs, knowledge and attitude of respondents towards tuberculosis and contact screening of under five children. But other variables like age of respondent, distance from home to HF, household's income, marital status and religion are not significantly associated with contact screening of under five children.

In multiple logistic regression, sex of respondents, residence, place of health facility, HIV status, screening benefit told by health care workers and attitude towards screening without sign and symptoms were significantly associated with contact screening of under five children. Thus, female participants were five times more likely to screen their under five years children as compared to male participants (AOR = 5.3, 95 % CI, (1.2, 23.2), $p = 0.02$). HIV infected patients were nineteen times more likely to adhere contact screening as compared with HIV uninfected participants (AOR= 19, 95 % CI, (2.1, 16.87), $p = 0.008$). Parents were fifteen times more likely to screen their under five children as compared to others (brothers, sisters, uncle, aunts, grandparents, housemaids) (AOR= 14.8, 95 % CI, (3.2, 69.7), $p=0.001$). Participants who didn't get information about contact screening from HCWs were 97 % less likely to screen as compared to those who got screening information (AOR = 0.03, 95 % CI, (0.01, 0.2), $p < 0.001$). A unit increase of attitude sum score, increases three times likely hood of contact screening (AOR = 2.8, 95 % CI, (1.5, 5.2), $p= 0.001$) which is summarized in table 4.

Table 4: Factors Associated With House Hold Contact Screening of Under 5 Years Children in Bivariate and Multivariate Analysis, In Bahir Dar Special Zone, From February - June 2016

Variables		Contact screening		Crude OR	AOR	P-value
		yes	no	95 % CI	95 % CI	For AOR
sex	male	69 (46.3 %)	50 (61.7 %)	1	1	
	female	80 (53.7 %)	31 (38.3 %)	1.9 (1.1, 3.2)	5.3 (1.2, 23.2)*	0.02
Residence	rural	29 (19.5 %)	40 (49.4 %)	1	1	
	urban	120 (80.5 %)	41(50.6 %)	4.1 (2.2, 7.3)	1.02 (0.2, 5.5)	0.99
Health facility	Health center	114 (76.5 %)	76 (93.8 %)	1	1	
	Hospital	35 (23.5 %)	5 (6.7 %)	4.7 (1.8, 12.4)	6.5 (1.0, 41.8)*	0.048
HIV status	HIV negative	119 (79.9 %)	77 (95.1)	1	1	
	HIV positive	30 (20.1 %)	4 (4.9 %)	4.9 (1.6, 14.3)	19 (2.1, 16.87)**	0.008
Relationship of the child with participant	Parents	107 (71.8 %)	34 (42 %)	3.5 (2, 6.2)	14.8 (3.2, 69.7) **	0.001
	*#Others	42 (28.2 %)	47 (58 %)	1	1	
Age of under five children	< 1 year	44 (29.5 %)	30 (37 %)	1	1	
	1-2 years	43 (28.9 %)	32 (39.5 %)	0.9 (0.5, 1.8)		0.7
	>2 years	62 (41.6 %)	19 (23.5 %)	2.2 (1.1, 4.4)	1.2 (0.3, 4.6)	0.83

Benefit of screening heard by HCW	No	24 (16.1 %)	68 (84 %)	0.04 (0.02, 0.08)	0.03 (0.01, 0.2)**	0.000
	Yes	125 (83.9 %)	13 (16 %)	1	1	
***# Knowledge score				1.7 (1.5, 1.9)	0.9 (0.6, 1.3)	0.45
***# Attitude score				3.1 (2.3, 4.2)	2.8 (1.5, 5.2)**	0.001

*Significant at $p < 0.05$, ** significant at $p < 0.01$

***#treated as continuous variables,

*#---brothers, sisters, grandparents, aunts, uncle, housemaid

5.6. Factors Associated With Isoniazid Prophylaxis of Under Age Five Children

In bivariate analysis, Isoniazid preventive therapy was significantly associated with residence of respondents, marital status, relationship of the index case with the contacted child, age of the child, knowledge and attitude of respondents towards tuberculosis and isoniazid preventive therapy.

However, in multivariate analysis only, knowledge of respondents towards tuberculosis and isoniazid prophylaxis and relationship of the index case with contacted under five children were significantly associated with isoniazid prophylaxis. A unit increase in knowledge sum of score, increases the likely hood of Isoniazid preventive therapy utilization by two times (AOR= 2.7, 95 % CI, (1.6, 4.5), $p < 0.001$). Others (brothers, sisters, uncle, aunts, grandparents, housemaids) were ninety percent less likely to utilize Isoniazid preventive therapy as compared to parents (AOR = 0.1, 95 % CI, (0.01, 0.5), $p = 0.007$).

The IPT utilization differed in contacted child age > 2 years, 1-2 years and <1 year being 68.2 %, 25 % and 6.8 % respectively. IPT utilization level in urban and rural also differed being 90.9 % and 9.1 % but not significant ($p = 0.11$) summarized in table 5.

Table 5: Factors Associated With Isoniazid Prophylaxis of Under Age Five Children in Bivariate Analysis and Multivariate Analysis in Bahir Dar Special Zone, From February - June 2016

Variable		IPT		Crude OR	AOR	P- value
		yes	no	95 % CI	95 % CI	For AOR
Residence	Urban	40 (90.9 %)	80 (76.2 %)	3.1 (1.01, 9.6)	0.2 (0.01, 1.6)	0.11
	Rural	4 (9.1 %)	25 (23.8 %)	1	1	
Relationship of participants with the child	Parent	42 (95.5 %)	40 (38.1 %)	1	1	
	Other*	2 (4.5 %)	65 (61.9 %)	0.1(0.02, 0.3)	0.1 (0.01, 0.5)**	0.007
Age of the child	< 1 year	3 (6.8 %)	41 (39 %)	0.1 (0.02, 0.3)	1.9 (0.3, 11.2)	0.49
	1-2 years	11 (25 %)	32 (30.5 %)	0.4 (0.2, 0.9)	1.8 (0.3, 11.2)	0.4
	>2 years	30 (68.2 %)	32 (30.5 %)	1	1	
HIV status	HIV negative	25 (56.8 %)	94 (89.5 %)	1	1	
	HIV positive	19 (43.2%)	11 (10.5 %)	6.5 (2.7, 15.4)	0.4 (0.5, 1.5)	0.17
*** Knowledge score				3.1 (1.9, 4.9)	2.7 (1.6, 4.5)**	0.000
*** Attitude score				6.8 (3.2, 14.5)	2 (0.9, 4.03)	0.06

** Significant at $p < 0.01$

***# treated as Continuous variables,

*---brothers, sisters, grandparents, aunts, uncles, housemaids

CHAPTER SIX

6. DISCUSSION

This study assessed contact screening and INH prophylaxis practice of children under age five among PTB⁺ patients. Intimate family contact with a TB case represents a significant risk factor for child morbidity and mortality in a low-income countries (22). Contact tracing, investigation and isoniazid prophylaxis of childhood contacts are priorities for tuberculosis control and elimination(5). Despite recommendations to implement contact screening activities, many National TB Programme do not do so(45). Tuberculosis contact screening using a symptom-based approach is a simplified, feasible and relevant approach in tuberculosis-endemic settings with limited resources, where TST and CXR are not readily available (35). Hence, this study investigated the level and factors affecting house hold contact screening and isoniazid prophylaxis of under five children.

According to this study findings, national tuberculosis control program on under five children contact screening and isoniazid preventive therapy are not effectively implemented. This study showed that, house hold contact screening and isoniazid prophylaxis of under five children were 57.3 % and 16.9 % respectively. These contact screening and IPT were low as national tuberculosis recommends routine contact screening and INH prophylaxis (10).This study finding is lower than contact screening and isoniazid prophylaxis level of a study conducted in India which were 67.5 % and 56.4 % respectively (31). Also this result is greatly lower than a study conducted in Western Cape Province of South Africa which was 91 % screened (34) and Indonesia study of 40 % IPT initiation (15). The possible explanation in our study could be due to passive type of contact screening method and lack of follow up of the index cases to bring their under five children to HF by HCWs.

In this study, IPT is consistent with another study reported in India which was 19 % of IPT initiation (30).A study conducted in Thailand reported that 52 % of house hold contact screening which is in line with these findings (33). However, this study exceeds a study reported in Vietnam only 5.5 % under five children screening (32) and a study in Malawi, only 9% were screened for TB and 6% received IPT (14).

Even though different guidelines recommend that every index cases should be informed about contact screening and availability of IPT for under five children contacts (10, 11, 21), in this study, 90.2 % of respondents informed to bring their under five children to health facility for screening and only 31.8 % of respondents informed about availability of isoniazid preventive therapy for contacted under age five year children at home. This finding is higher than a study in India with the issue of contact screening information of 24 %, but collaborate with IPT information which was 27 % (30).

As previous studies reported (30, 33) contact screening and isoniazid prophylaxis were affected by socio-demographic factors, HCWs related factors and individual factors of the patients.

In this study, sex of respondents was an important factor for household contact screening of under five children as female patients were five times more likely to bring their under five children for screening as compared to male patients. But, a study conducted in Thailand didn't support this finding that contact screening was not significantly associated with gender (33). The possible reason for the difference in this study could be that females are more involved in the case of child care at home.

Relationship of index cases with contacts played a crucial role in this study as parents were significantly higher for household contact screening of under five children but a study conducted in Thailand opposed this finding (33). The possible explanation in this study could be that parents are more decision makers and concerned for their child health than others (brothers, sisters, grandparents, uncles, aunts and housemaids).

Those patients who didn't get information about benefit of early contact screening from health care workers were 97 % less likely to bring their under five children for contact screening as compared to those patients who got information about screening benefit from health care workers. This showed that the only source of information for participants concerning contact screening of under five children were health care workers. This finding is supported by a study conducted in Thailand household contact screening adherence of TB patients was five folds with a good knowledge of TB (33).

House hold contact screening of under five children was weakly associated with type of health facilities as hospitals screened more under five children than health centers. Similarly, in Thailand health centers were rarely functioning in contact screening (33). This could be due to lack of commitment of HCWs from HCs to inform patients about benefit of early contact screening of under five children about the usefulness of early contact screening in health centers .

Attitude of participants towards household contact screening of under five children without signs and symptoms had significant association. This revealed that if health workers educate patients about contact screening deeply, it is possible to change their attitude. This finding was supported by study conducted in Vietnam (38) but, Malawian study found that, despite the provision of clear information to sputum smear-positive TB cases in the local language and using illustrations, only 8% of child case contacts were brought for screening (40).

In this study, the level of contact screening among HIV infected and HIV uninfected patients had significant association with contact screening of under-five children unlike previous studies (37). This could be as many of HIV positive patients had regular visits to health facility for anti-retroviral therapy follow up which might in turn made them knew the benefit of early contact screening than HIV uninfected patients.

In the case of Isoniazid preventive therapy, this study found that, relationship of the index case with contacts of under five children had strong association with IPT. This might be due to much involvement of parents for their child health than other index cases (brothers, sisters, grandparents, uncles, aunts and housemaids)

IPT utilization level in urban and rural differed being 90.9 % and 9.1 % respectively but not significant. However, a study conducted in India showed that no difference between urban and rural in IPT utilization (30). Also, there was a difference in IPT utilization of contacted child age > 2 years and <1 year, 68.2 % and 6.8 % respectively but not significant.

Knowledge of participants towards tuberculosis, contact screening and IPT had significant association with IPT utilization of under five children. This showed that when the participants understood the benefit of isoniazid prophylaxis, they utilize isoniazid preventive therapy for their contacted under five children.

Limitation of the study

Children who were not screened for TB and/or were not initiated on IPT were subsequently came for TB screening and initiating IPT as outcome of this study.

CHAPTER SEVEN

7. CONCLUSION AND RECOMMENDATION

7.1 Conclusion

Tuberculosis contact screening and isoniazid prophylaxis among the house hold contacts (under five children) of pulmonary positive tuberculosis patients didn't get emphasis as TB control program. Household contact screening of under five children in Bahir Dar special zone was fifty seven percent which is low. Only fifty four percent of the participants knew the benefit of early contact screening. Telling benefit of early contact screening for index cases is crucial in scaling up contact screening practice of under five year children

Participants who heard about contact screening were got this information only from health care workers. But, all pulmonary positive tuberculosis patients didn't get screening information from health care workers.

Sex of respondents, residence, HIV status, relationship of the index case with the contacted child, and benefit of contact screening told by HCWs were found to be independent factors in contact screening practice of under five children. Attitude of participants towards tuberculosis and contact screening also affected contact screening practice of under five year children.

Isoniazid preventive therapy of under five children was also only seventeen percent which is very low. More than two third of the participants didn't hear about Isoniazid preventive therapy and only twenty eight percent of participants knew benefit of IPT. Knowledge of respondents towards Isoniazid prophylaxis and relationship of the index cases with contacted under five children were found to be an important independent factors for Isoniazid preventive therapy.

7.2. Recommendation

Regional Health Bureau and Zonal Health Department:

Amhara regional health bureau and Bahir Dar city administration zonal health department should give attention to household contacts of index PTB⁺ cases to control tuberculosis. They should collaborate with HFs to improve commitment of HCWs and awareness of patients towards screening and IPT. They should disseminate contact screening and Isoniazid prophylaxis therapy information through different Medias.

Health Facilities:

They should give contact screening and Isoniazid preventive therapy information of contacted under five children for every PTB⁺ patients and need strict follow up of them.

Researchers:

Contact screening and IPT practice amongst health care workers and patients should be investigated qualitatively in order to get deep information because reasons for this poor contact screening and isoniazid preventive therapy practice have not yet fully explored.

Furthermore, I recommend also that to dig out the reasons why Isoniazid preventive therapy is very low from under one year children as compared to greater than two years children.

CHAPTER EIGHT

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ANNEXES

Informed Consent form

Hello, how are you? I want to thank you for taking the time to meet with me today.

My name is _____. I am postgraduate student of Jimma University.

I am here on the behalf of Jimma University post graduate research team. I am doing my study on **Tuberculosis contact screening and INH prophylaxis among under five children in Bahir Dar special zone**. You are selected to participate in this study and I think that you would be in a position to provide me relevant information for questions that I ask you to meet my study objectives. All responses will be kept confidential. I will ensure that any information I include in my report does not identify you as the respondent. Your name or your identification information will not be registered instead I use codes. Therefore, you are free to respond the questions. If you are volunteer, I will proceed to the interview.

Questionnaires/tools

A. English version

Part 1 Socio-Demographic characteristics

1.1. Identification number of the respondents' _____

1.2. Age in completed years: _____

1.3. Religion:

- a. Orthodox
- a. Muslim
- b. Protestant
- c. Catholic
- d. Other(specified

1.4. Residence

- a. Urban
- b. Rural

1.5. Marital status

- a. Single
- b. Married
- c. Windowed
- d. Divorced

1.6. What is the highest level of education you have completed?

- a) No formal schooling
- b) Primary school educated (1-8)
- c) Secondary/preparatory school educated (9-12)
- d) College/University educated

1.7. How far is the health facility from your home?-----hr. /hrs.

1.8. Occupation

- a. Government employee
- b. Farmer
- c. Student
- d. Laborer

- e. Housewife
- f. merchant
- g. No work
- h. other-----

1.9. How much is your monthly income in your HH in Ethiopian Birr?

1.10. HIV status of the respondent

- a) HIV Negative
- b) HIV positive
- c) HIV status unknown

1.11. How many under five children do you have at home?

- a. 1
- b. 2
- c. ≥ 3

1.12. Age of under-five child/children

- a. < 1 year
- b. 1-2 year
- c. >2 years

1.13. Relationship of the respondent with under five children

- a. Father
- b. mother
- c. Brother
- d. Sister
- e. Other

1.14. Place of health service

- a. Health center
- b. Hospital

Part 2. Knowledge related questions

2.1. What is Tuberculosis related with symptoms?

- a. Cough more than two weeks
- b. Sputum with blood

- c. Wt. loss and loss of appetite
- d. fever and night sweating
- e. chest pain
- f. others
- f. I don't know

2.2. What is the cause of Tuberculosis?

- a) An infectious organism (bacteria)
- b) Getting cold air
- c) Living in an unhygienic environment
- d) Inheriting the disease from parents
- e) It is punishment from God
- f) Others
- g) I don't know

2.3. How can TB transmitted to others?

- a. During coughing, Sneezing, Talking, Singing by air
- b. By sharing utensils
- c. Unsafe sexual intercourse
- d. Contaminated water & food
- e. Others
- f. I don't know

2.4. Who are the most vulnerable age groups for TB infection & disease?

- a) Under five children
- b) Adults
- c) All people are equal
- d) Others
- e) I don't know

2.5. Is tuberculosis preventable from infection and disease of under five children?

- a. yes
- b. no
- c. I don't know

2.6. If yes for Q 2.5, how can tuberculosis be prevented? By

- a. Feeding properly.
- b. Covering of mouth during coughing and sneezing
- c. Avoiding sharing utensils
- d. Avoiding contaminated food & water
- e. others

2.7. If yes for Q2.5, from which source did you get this information to prevent children from TB infection & diseases? From

- a. Health professionals
- b. TV and/or radio
- c. newspapers, publications, books
- d. other sources

2.8. Can tuberculosis be cured?

- a. Yes
- b. No
- c. I don't know

2.9. If yes for Q2.8, how TB can be cured?

- a) TB can be cured if a person takes treatment
- b) Traditional medicine can cure TB
- c) TB can be cured by itself
- d) Other

2.10. Did you hear about contact screening of TB for under five children of those contact with you at home?

- a. Yes
- b. No

2.11. If yes for Q2.10 from which source did you get this information? From

- a. Health professionals
- b. TV and/or radio
- c. newspapers, publications, books
- d. other sources

2.12. If yes for Q 2.10, do you know the advantage of contact screening of under five children without sign and symptom?

- a. Yes
- b. no

2.13. If yes, for Q 2.12, what is the advantage of contact screening of under five children?

- a. to detect helminths
- b. to detect infection, disease and get treatment early for TB
- c. to detect malaria
- d. Other

2.14. Did you hear about isoniazid preventive therapy of under five children for those who had contact with you at home?

- a. Yes
- b. No

2.15. If yes for Q2.14, from where did you here?

- a. from health professionals
- b. TV and/or radio
- c. newspapers, publications and journals
- d. other sources

2.16. Do you know the benefit of preventive therapy for under five children who had TB contact?

- a. yes
- b. no

2.17. What is the benefit of preventive therapy?

- a. don't get tuberculosis disease
- b. don't get common cold
- c. don't get malaria
- d. don't get HIV/AIDS
- e. others

2.18. Which contacts do you think to be considered for isoniazid preventive therapy?

- a) under 5 year's children who are symptomatic
- b) Asymptomatic under five children

- c) Healthy adults
- d) All peoples
- e) Others

Part 3. Attitude related questions

3.1. Under five children can be prevented from tuberculosis infection and disease in your home.

- 1. Strongly Disagree
- 2. Disagree
- 3. Neutral
- 4. Agree
- 5. Strongly agree

3.2. Children are susceptible for tuberculosis other than adults.

- 1. Strongly Disagree
- 2. Disagree
- 3. Neutral
- 4. Agree
- 5. Strongly agree

3.3. Tuberculosis is serious disease for children than adults.

- 1. Strongly disagree
- 2. Disagree
- 3. Neutral
- 4. Agree
- 5. Strongly agree

3.4. Bringing under five children to HFs who has TB contact at home for screening without sign & symptoms.

- 1. Strongly disagree
- 2. Disagree
- 3. Neutral
- 4. Agree
- 5. Strongly agree

3.5. Starting preventive treatment for under five children is useful with no signs and symptoms who had contact history of pulmonary positive TB patients

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Part 4. Practice related questions

- 4.1. What measures did you take to prevent your child from TB infection and disease?
- b. Separation of bed
 - c. Separation of room
 - d. Separation of house
 - e. Opening windows
 - f. wearing a face mask
 - g. taking anti-TB drugs properly
 - h. Others
- 4.2. IF yes for Q2.10, did your under five child/children screen for TB?
- a) Yes
 - b) No
- 4.3. If yes for Q4.2 what was the screening result?
- a) No disease
 - b) Disease developed
- 4.4. If yes for Q 4.2, what did the HCWs do for him/her/them after screening?
- a) We returned back with nothing
 - b) They started treatment of a single drug for 6 month
 - c) They started combination of drugs for 6 month
 - d) They appointed us for another time
 - e) others
- 4.5. If no for Q4.2, why didn't you bring for screening? B/c
- a) He/she didn't get sick
 - b) The HCWs did not tell me to bring
 - c) Family did not allow to bring without being sick
 - d) Others reason

4.6. If yes for Q2.14, did your child/children start INH prophylaxis?

- a. Yes
- b. No

4.7. If yes for Q2.15 and if your child developed cough, night sweating, fever, loss of appetite etc., what would you do?

- a) I will continue preventive treatment at home
- b) I will bring to health facility
- c) I will give additional traditional medicine
- d) Others

Part 5. Health workers related factors

5.1. Did you get health information from HCWs how to prevent under five children from TB infection and disease?

- a. yes
- b. no

5.2. Did you informed to bring your under five child/children to HF for screening?

- a. yes
- b. no

5.3. If yes for Q 5.2, did you informed about the benefit of screening?

- a. yes
- b. no

5.4. Did you informed about the presence of preventive therapy for your under five child/children from TB disease who had contact with you at home?

- a. yes
- b. no

5.5. If yes for Q 5.4, did you informed about the benefit of preventive therapy to prevent tuberculosis development?

- a. yes
- b. no

Thank you very much in participating in our study!!!

የቃለ መጠይቅ ተሳታፊዎች መረጃ መስጫ ቅጽ-በአማርኛ

ጅም ዩኒቨርሲቲ

ጤና ሳይንስ ኮሌጅ

የጤና ት/ት እና ሥነ-ባህሪ ት/ት ክፍል

ዋና የጥናቱ አጥኝ ሙሉ ስም የሴፍ ዋሲሁን

በጅም ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣ የጤና ትምህርትና ስነ ጠባይ ትምህርት ክፍል የ2ኛ ዓመት የሁለተኛ ድግሪ ተመራቂ ተማሪ ነኝ። በአሁኑ ሰዓት ከአምስት ዓመት በታች ህፃናት ያሉዎቸው ፖዘቲቭ የሳንባ ነቀርሳ በሽተኞች ልጆቻቸውን ወደ ጤና ተቁም በማምጣት የሚያደርጉትን ምርመራና የመከላከያ ህክምና በተመለከተ ጥናቱን አካሂዳለሁ። ስለዚህ እርስዎ በጥናቱ እንዲሳተፉ ስለተመረጡ እርስዎም የታቀደው የጥናት ዓላማ ግቡን ይመታ ዘንድ በጥያቄ መልሱ እንደሚሳተፉና ትክክለኛ የሆነ መረጃ እንደሚሰጡኝ ተስፋ አደርጋለሁ። በጥያቄ መልሱ መሳተፍም ሆነ ያለመሳተፍ ምርጫዬ ግን የራስዎ ነው። ነገር ግን ሚስጥርዎን ለመጠበቅ በሚሰጡኝ መረጃ ላይ የአርስዎን ማንነት የሚገልፅ ስምዎም ሆነ ሌላ ነገር አይገለፅም። ስለዚህ ከስጋት ነፃ ሆነው መልስ እዲሰጡኝ እጠይቃለሁ። ፈቃደኛ ከሆኑ ጥያቄን ልቀጥል።

B. ጥያቄዎች በአማርኛ ትርጉም

ክፍል አንድ፡ አጠቃላይ መረጃ

1.1. መለያ ቁጥር-----

1.2. የተሳታፊው ፆታ

ሀ. ወንድ

ለ. ሴት

1.3. ዕድሜ በዓመት

1.4. ሐይማኖት

ሀ. ኦርቶዶክስ

ለ. ሙስሊም

ሐ. ፕሮቴስታንት

መ. ሌላ ካለ

1.5. መኖሪያ ቦታ

ሀ. ከተማ

ለ. ገጠር

1.6. የትዳር ሁኔታ

ሀ. ያላገባ/ች

ለ. ያገባ/ች

ሐ. የፈታ/ች

መ. ባለ-ዋ የሞተባት/ሚስቱ የሞተችበት

1.7. የት/ት ደረጃ

ሀ. መደበኛ ት/ት ያልተማረ/ች

ለ. 1ኛ ደረጃ ያጠናቀቀ/ች

ሐ. 2ኛ ደረጃ ያጠናቀቀ/ች

መ. ኮሌጅ/ዩኒቨርሲቲ ያጠናቀቀ

1.8. ከቤትህ/ሽ እስከ ጤና ተቁም ያለው ርቀት በሰዓት

1.9. የተሳታፊው ስራ

ሀ. የመንግስት ስራተኛ

ለ. ገበሬ

ሐ. ተማሪ

መ. የቀን ስራተኛ

ሠ. የቤት አመቤት

ረ. ነጋዴ

ሰ. ስራ የለኝም

ሸ. ሌላ ካለ-----

1.10. ወርሀዊ የቤተሰብ የገቢ መጠን በኢትዮጵያ ብር ምን ያህል ይሆናል?

1.11. የኤች አይ ቪ ምርመራ ውጤት

ሀ. ኤች አይ ቪ በደሙ ውስጥ የሌለበት

ለ. ኤች አይ ቪ በደሙ ውስጥ ያለበት

ሐ. ያልታወቀ

1.12. ከዓምስት ዓመት በታች የሆኑ በቤትዎ ውስጥ ስንት ልጆች አሉ?

ሀ. 1

ለ. 2

ሐ. ≥ 3

1.13. የልጅዎ ዕድሜ ስንት ዓመት ነው

ሀ. < 1 ዓመት

ለ. 1-2 ዓመት

ሐ. >2 ዓመት

1.14. ተሳታፊው ከልጁ ጋር ያለው ዝምድና

ሀ. አባት

ለ. እናት

ሐ. ወንድም

መ. እህት

ሠ. ሌላካለ-----

1.15. የጤና አገልግሎቱ የሚሰጥበት ቦታ

ሀ. ጤና ጣቢያ

ለ. ሆስፒታል

ክፍል ሁለት: ዕውቀት ተኮር የሆኑ ጥያቄዎች

2.1. የሳንባ ነቀርሳ ምልክቶች ምን ምን ናቸው?

ሀ. ከ 2 ሳምንት በላይ የሆነ ሳል

ለ. ደም የሚቀላቅል አክታ

ሐ. የምግብ ፍላጎት እና የክብደት መቀነስ

መ. ትኩሳትና ሌሊት ማላብ

ሠ. የደረት ውጋት

ረ. ሌላ ካለ-----

2.2. የሳንባ ነቀርሳ በሽታ ምክንያቱ ምንድን ነው ይላሉ?

ሀ. ባዕድ አካላት (ባክቴሪያ)

ለ. ቀዝቃዛ አየር (ብርድ)

ሐ. ንፅህና ከከጎደለው አካባቢ መኖር

መ. ከቤተሰብ የሚወረስ በሽታ ነው

ሠ. በእግዚዓብሔር ቁጣ የሚመጣ በሽታ ነው

ረ. ሌላ ካለ

2.3. የሳንባ ነቀርሳ እንዴት ከሰው ወደ ሰው ይተላለፋል?

ሀ. በምናስል፤ በምናስነጥስ፤ በምናወራ ጊዜ እና በመሳሰሉት

ለ. የመመገቢያ እቃዎችን በጋራ በመጠቀም

ሐ. በግብረ ስጋ ግንኙነት 51

መ. በተበከለ ውሃ እና ምግብ

ሠ. ሌላ ካለ

2.4. በቤት ውስጥ በከፍተኛ ደረጃ የሳንባ ነቀርሳ የመተላለፍ እድል ያለው እነማን ላይ ነው?

ሀ. ጎልማሶች

ለ. ከ 5 ዓመት በታች የሆኑ ህፃናት

ሐ. ሁሉም ሰው እኩል ነው

መ. ሌላ ካለ-----

2.5. ህፃናትን ከሳንባ ነቀርሳ ብከላ እና በሽታ መከላከል ይቻላል?

ሀ. አዎ

ለ. አይደለም

ሐ. አላውቅም

2.6. ለጥያቄቁ.2.5 አዎ ካሉ እንዴት መከላከል ይቻላል?

ሀ. ምግብ በትክክል በመመገብ

ለ. በሳል እና በንጥሻ ጊዜ አፍን መሸፈን

ሐ. በባህላዊ ህክምና

መ. የተበከሉ ምግቦችን አለመመገብ

ሠ. ሌላ ካለ-----

2.7. ለጥያቄቁ.2.5 አዎ ካሉ ይህን መረጃ ከየት ነው የሰሙት?

ሀ. ከጤና ባለሙያዎች

ለ. ቴሌቪዥን/ሬድዮ

ሐ. ጋዜጣ፣ መጻሕፍት፣ መጻሕፍት

መ. ሌላ ካለ-----

2.8. የሳንባ ነቀርሳ በሽታ መፈወስ/መዳን ይችላል?

ሀ. አዎ

ለ. አይደለም

ሐ. አላውቅም

2.9. ለጥያቄቁ.2.8 አዎ ካሉ፣እንዴት ነው መዳን የሚችለው?

ሀ. ህክምና ከወሰደ

ለ. በባህላዊ ህክምና

ሐ. በራሱ ጊዜ ይደናል 52

መ. ሌላ ካለ-----

2.10. በቤት ውስጥ ከርስዎ ጋር አብረው የሚኖሩ ከ5 ዓመት በታች የሆኑ ህፃናት መመርመር እንዳለባቸው ሰምተዋል?

ሀ. አዎ

ለ. አይደለም

2.11. ለጥያቄቁ.2.10 አዎ ካሉ፣ ከየት ነው ይህን መረጃ የሰሙት?

ሀ. ከጤና ባለሙያዎች

ለ. ቴሌቪዥን/ሬድዮ

ሐ. ጋዜጣ፣ መፅሔት ፤ መፅሐፍ

መ. ሌላ ካለ-----

2.12. ለጥያቄ ቁ.2.10 አዎ ካሉ፣ አምጥቶ ማስመርመር ጥቅም ምን እንደሆነ ያውቃሉ?

ሀ. አዎ

ለ. አይደለም

2.13. ለጥያቄቁ.2.12 አዎ ካሉ፣ ምንድን ነው ጥቅሙ?

ሀ. የሆድ ትላትልን ለማግኘትና ለመታከም

ለ. የሳንባ ነቀርሳን ብከላ ለማግኘትና በሽታን ለመከላከል

ሐ. ወባን ለመከላከል

መ. ሌላ ካለ

2.14. በቤት ውስጥ ከርስዎ ጋር አብረው የሚኖሩ ከ5 ዓመት በታች የሆኑ ህፃናት መከላከያ ህክምና መውሰድ እንዳለባቸው ሰምተዋል?

ሀ. አዎ

ለ. አይደለም

2.15. ለጥያቄቁ.2.14 አዎ ካሉ ይህን መረጃ ከየት ነው የሰሙት?

ሀ. ከጤና ባለሙያዎች

ለ. ቴሌቪዥን/ሬድዮ

ሐ. ጋዜጣ፣ መፅሐፍ

መ. ሌላ ካለ-----

2.16. ለጥያቄቁ.2.14 አዎ ካሉ የመከላከያ ህክምናው ጥቅም ምን እንደሆነ ያውቃሉ?

ሀ. አዎ

ለ. አይደለም

2.17. ለጥያቄዬ.2.16 አዎ ካሉ የመከላከያ ህክምናው ጥቅም ምንድን ነው?

ሀ. ህፃናት በሳንባ ነቀርሳ በሽታ እንዳይያዙ

ለ. ህፃናት በጉንፋን እንዳይያዙ

ሐ. ህፃናት በወባ እንዳይጠቁ

መ. ኤች አይ ቪ ኤድስን ለመከላከል

ሠ. ሌላካለ-----

2.18. በቤት ውስጥ ከርስዎ ጋር አብረው ከሚኖሩት ሰዎች የትኞቹ ናቸው የመከላከያ ህክምና የሚወስዱት?

ሀ. የበሽታ ምልክት ያሳዩ ከ5 ዓመት በታች የሆኑ ህፃናት

ለ. የበሽታ ምልክት ያሳዩ ከ5 ዓመት በታች የሆኑ ህፃናት

ሐ. የበሽታ ምልክት የሌላቸው ጎልማሶች

መ. ሁሉም ሰው

ሠ. ሌላ ካለ-----

ክፍል ሶስት: አመለካከትን የተመለከቱ ጥያቄዎች

3.1. ከ5 ዓመት በታች የሆኑ በቤትዎ ውስጥ ያሉ ህፃናት ከሳንባ ነቀርሳ ብከላና በሽታ መከላከል ይቻላል

ሀ. በጣም አልስማማም

ለ. አልስማማም

ሐ. ገለልተኛ

መ. እስማማለሁ

ሠ. በጣም እስማማለሁ

3.2. ከ5 ዓመት በታች የሆኑ ህፃናት ከጎልማሶች ይልቅ በሳንባ ነቀርሳ በሽታ የመጠቃት ዕድል አላቸው

ሀ. በጣም አልስማማም

ለ. አልስማማም

ሐ. ገለልተኛ

መ. እስማማለሁ

ሠ. በጣም እስማማለሁ

3.3. የሳንባ ነቀርሳ በሽታ ከጎልማሶች ይልቅ በህፃናት ላይ የከፋ በሽታ ነው

ሀ. በጣም አልስማማም

ለ. አልስማማም

ሐ. ገለልተኛ

መ. እስማማለሁ

ሠ. በጣም እስማማለሁ

3.4. ከ5 ዓመት በታች የሆኑ በቤት ውስጥ ያሉ ህፃናትን የበሽታ ምልክት ሳያሳዩ ወደ ጤና ተቋማት ለምርመራ ማምጣት ተገቢ ነው

ሀ. በጣም አልስማማም

ለ. አልስማማም

ሐ. ገለልተኛ

መ. እስማማለሁ

ሠ. በጣም እስማማለሁ

3.5. ከ5 ዓመት በታች የሆኑ በቤት ውስጥ ያሉ ህፃናትን የበሽታ ምልክት ሳያሳዩ ህክምና መጀመር ተገቢ ነው

ሀ. በጣም አልስማማም

ለ. አልስማማም

ሐ. ገለልተኛ

መ. እስማማለሁ

ሠ. በጣም እስማማለሁ

ክፍል አራት፡ ትግበራን የተመለከቱ ጥያቄዎች

4.1. ህፃን ልጅዎን ከሳንባ ነቀርሳ በሽታ ለመከላከል በቤትዎ ምን ምን እርምጃዎችን ወስዱ?

ሀ. አልጋ መለየት

ለ. የመኝታ ክፍል መለየት

ሐ. ቤት መለየት

መ. መስኮት መክፈት

ሠ. ማስክ መጠቀም

ረ. የታዘዘልኝን መድኃኒት በትክክል እወስዳለሁ

ሰ. ሌላ ካለ-----

4.2. በቀን ምን ያህል ሠዓት ከልጅዎ ጋር ያሳልፋሉ?

ሀ. ሙሉ ቀን

ለ. ማታ ማታ ብቻ

ሐ. ቀን ቀን ብቻ

መ. ሌላ ካለ

4.3. ለጥያቄ 2.10 አዎ ካሉ በቤት ውስጥ ከርስዎ ጋር አብረው የሚኖሩ ከ5 ዓመት በታች የሆኑ ህፃናት ተመርምረዋል?

ሀ. አዎ

ለ. አይደለም

4.4. ለጥያቄቁ.4.3. አዎ ካሉ የምርመራ ውጤቱ ምን ሆነ?

ሀ. በሽታ አልተገኘም

ለ. በሽታ ተገኘ

4.5. ለጥያቄቁ.4.3. አዎ ካሉ፣ለህፃኑ ምን ተደረገለት?

ሀ. ምንም አልተደረገም

ለ. አንድ መድሃኒት ለ 6 ወር ጀመሩለት

ሐ. የተለያዩ መድሃኒቶችን በአንደ ላይ ለ6 ወር ጀመሩለት

መ. በቀጠሮ ብቻ ተመለስን

ሠ. ሌላካለ-----

4.6. ለጥያቄቁ. 4.3. አይደለም ካሉ፣ለምን ልጅዎን ለምርመራ አላመጡም?

ሀ. ስላልታመመ/ች

ለ. የጤና ባለሙያዎች አምጣ/አምጭ ብለው ስላልነገሩኝ

ሐ. ቤተሰብ ስላልፈቀደ

መ. ሌላ ካለ

4.7. ለጥያቄቁ.2.14 አዎ ካሉ በቤት ውስጥ ከርስዎ ጋር አብረው የሚኖሩ ከ5 ዓመት በታች የሆኑ ህፃናት የመከላከያ ህክምና ጀምረዋል?

ሀ. አዎ

ለ. አይደለም

4.8. ለጥያቄቁ.4.7 አዎ ካሉ እና ልጅዎ እንደ ሳል፣ ትኩሳት፣ የምግብ ፍላጎት መቀነስ፣ የሰውነት ክብደት መቀነስ እና የመሳሰሉት ቢገጥመው ምን ያደርጋሉ?

ሀ. የመከላከያ ህክምናውን እቀጥላለሁ

ለ. ወደ ጤና ተቋማት አመጣዋለሁ/ አመጣታለሁ

ሐ. ሌላተጨማሪ የባህል ህክምና እወስደዋለሁ

መ. ሌላ ካለ

4.9. ለጥያቄቁ.4.7 አይደለም ካሉ የመከላከያ ህክምና ያልጀመሩበት ምክኒያት ምንድን ነው?

ሀ. እኔ ስላልፈለግሁ

ለ. ጤና ባለሙያዎች ስላላስጀመሩት

ሐ. ሌላ ካለ-----

ክፍል አምስት፡የጤና ሰራተኞችን የተመለከተ ጥያቄ

5.1. ከ5 ዓመት በታች የሆኑ ህፃናትን እንዴት መከላከል እንዳለብዎ በጤና ባለሙያ ምክር ተሰጥታል? 56

ሀ. አዎ

ለ. አይደለም

5.2. ከ5 ዓመት በታች የሆኑ ህፃናትን ወደ ጤና ተቋም ለምርመራ እድታመጡ በባለሙያ ተነግሩዎታል?

ሀ. አዎ

ለ. አይደለም

5.3. ከ5 ዓመት በታች የሆኑ ህፃናትን ጤና ተቋም በማምጣት ቀድሞ ማስመርመር ያለውን ጥቅም በባለሙያ ተነግሩዎታል?

ሀ. አዎ

ለ. አይደለም

5.4. ከ5 ዓመት በታች የሆኑ በቤት ውስጥ ያሉ ህፃናትን የሳንባ ነቀርሳ ለመከላከል መድሃኒት እንዳለበት ባለሙያ ተነግሩዎታል?

ሀ. አዎ

ለ. አይደለም

5.5. ከ5 ዓመት በታች የሆኑ ህፃናትን ጤና ተቋም በማምጣት ቀድሞ የመከላከያ ህክምና ማስጀመር ያለውን ጥቅም በባለሙያ ተነግሩዎታል?

ሀ. አዎ

ለ. አይደለም

በጥናታችን ስለተሳተፉ እጅግ በጣም እናመሰግናለን!!!

Summary of the results

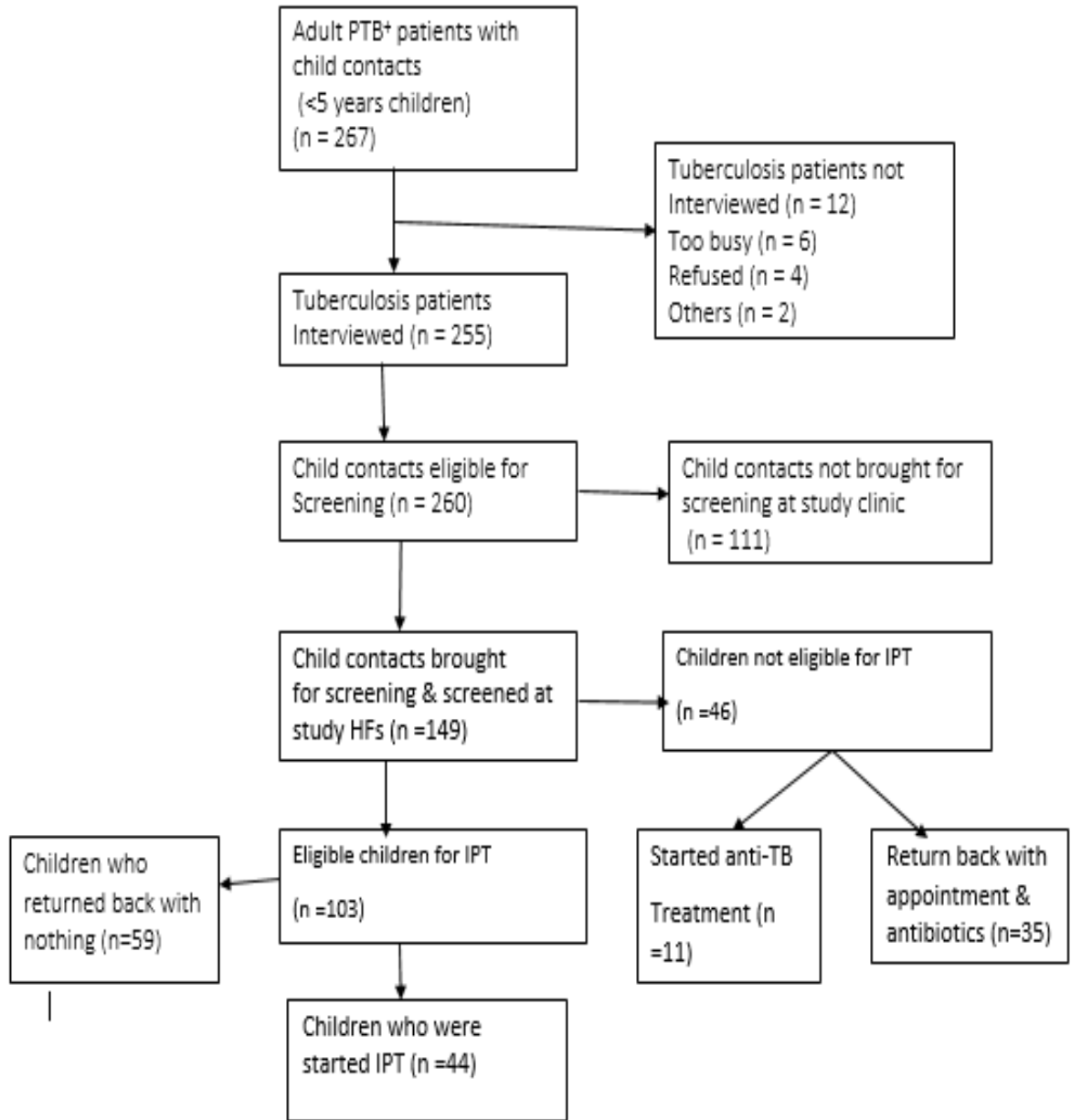
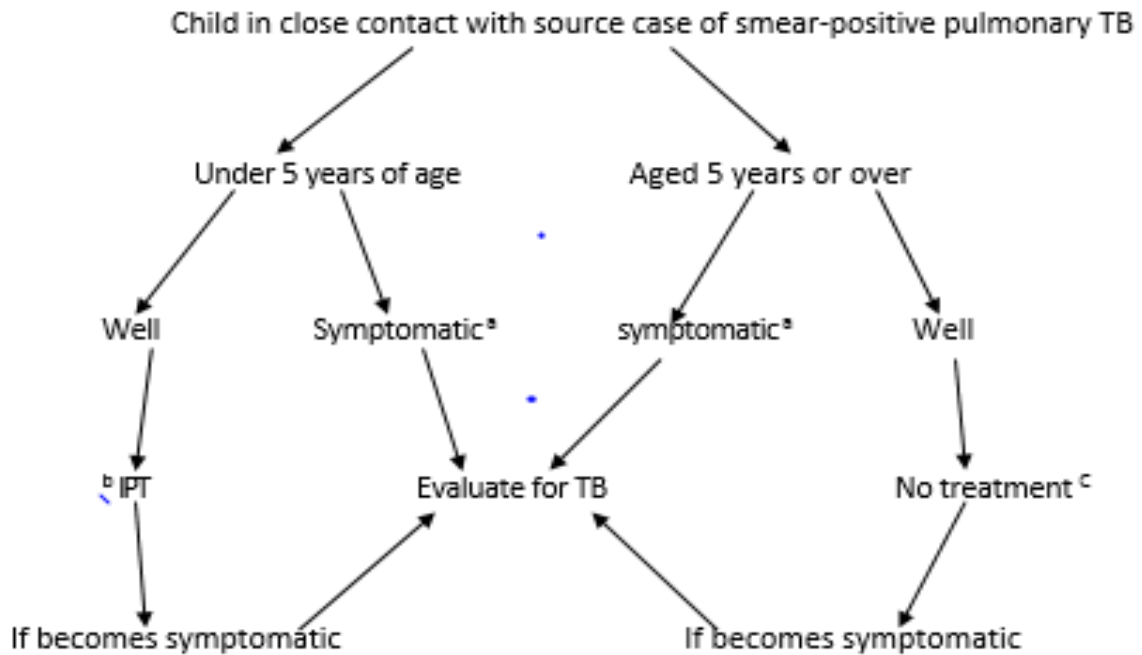


Figure 4: Number of Participants Involved, Number of Under Five Children Screened And Actions Took Place after Results, In Bahir Dar Special Zone, From February - June 2016

Suggested approach for contact management



^a Workup for Active TB by referring local guide lines

^b Isoniazid 10/mg/kg daily for 6 months

^c monitor clinically for possible development of active diseases till one year

Figure 5. Suggested Approach To Contact Management When Chest Radiography And Tuberculin Skin Testing Are Not Readily Available. (Adopted From Guidelines for Clinical and Programmatic Management of Tb, Leprosy and TB/HIV in Ethiopia: Fifth Edition; April, 2012 Addis Ababa) From February – June 2016