

Research Article

Assessment of Clients' Knowledge, Attitude, Practice and Associated Factors on Tuberculosis at Yejube Health Center, Northwest Ethiopia

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Abstract: The objective of this study is to assess clients' knowledge, attitude, practice and associated factors towards tuberculosis in Yejube health center Northwest Ethiopia. Institution based cross-sectional study was conducted at Yejube health center among 392 individuals from March to June 2017. Data were analyzed manually. Descriptive statistics were used to determine level of practice and its predictors. Out of the total 83.2% of respondents said that they heard about TB. Around 70.4% had awareness that TB can be transmitted through air droplet and knew cough (36.4%) was the most commonly stated symptom of TB while modern drugs used in health institution (80.7%) was the preferred choice of treatment. Similarly, 81.8% said that they would seek treatment at health facility if they had symptoms related to TB and 32.1% experience fear if themselves had TB. Individuals with educational level unable to read and write had poor level of practice on TB prevention compared to college and above. Individuals having poor attitude towards TB are also greater than those of having poor practice to having good attitude and individuals having poor knowledge towards TB has higher than having poor practice to having good knowledge. Most patients had little information about the cause of TB, transmission, prevention and associated factors. Level of practice is affected by poor attitude, poor knowledge. Therefore, it needs a strategy directed to bring a significant change in their attitude and knowledge towards patient with TB.

Keywords: Attitude, knowledge, practice, tuberculosis, Yejube

INTRODUCTION

Tuberculosis (TB) is a communicable disease caused by the bacteria, *Mycobacterium Tuberculosis* (MTB) in humans and may affect several organs within the body. However, the primary site for active TB infection is the lungs. TB is spread through droplet nuclei that become aerosolized when an infected person coughs, speaks, sings or talks. Although latent infection is possible, the bacteria are therefore the active disease that is referred to as TB (White Zahra, 2011; WHO, 2016).

Active, drug-sensitive TB disease is treated with a standard six-month course of four antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer. Without such supervision and support, treatment adherence can be difficult and the disease can spread. The vast majority of TB cases can be cured when medicines are provided and taken properly. And also, avoiding the risk factor play a major role in preventing TB. These factors include overcrowding, malnutrition, personal hygiene, smoking, retroviral infection, drug users and so on (Chaisson and

Martinson, 2008; Hoa *et al.*, 2009; WHO, 2007). Conducting this research provides will help to know the level of knowledge, attitude, practice and associated factors of tuberculosis. This study will also help managers and concerned bodies to take necessary measures. In addition this study will be used as a base line for further research and researchers in the field.

METHODOLOGY

Sample size determination: Institutional based cross-sectional study was conducted from March to June, 2017. Sample size was calculated by using single population proportion formula by considering the following assumptions; Confidence level of 95%, tolerable error = 5% and the estimated prevalence we took 36.5% by taking a population proportion (P) value from similar cross sectional study conducted in Eastern Amhara Regional State 2013 (Kolappan *et al.*, 2008):

$$\text{So, } n = (z^2/2)^2 p(1-p)/w^2, n = (1.96)^2 (0.365) (1-0.365)/(0.05)^2 = (3.8416)(0.232)/(0.0025) \quad n = 356.500 \sim 357,$$

where,

W = Margin of error

P = Population proportion = 0.365

Z^{a/2} = Confidence level = 1.96

Adding 10% non-response rate, the final sample is 392.

Data collection and analysis: Data was collected using interviewer administered structured questionnaires. To assure weather the questionnaires were appropriate, valid and consistent we conducted pretest. Before starting data analysis, the data was coded, edited and organized. Then data is analyzed manually using tally method.

RESULTS

Socio demographic characteristics: From total participants 210 (53.6%) were females and 182(46.4%) were males.91 (23.2%) were in the age range 18-24 years, 101(25.8%) of them were in the age of 25-31 year, 57(15.2%) of them were in the age of 32-38 and 143(36.5%) of them were in the age of >38. Majority of them were married (72.2%), 21.2% were single, 4.3% were divorced and 2.3% were widowed. About 244 (62.2%) were residing in rural areas and 177(47.3%) of the participants were housewives.

Knowledge towards tuberculosis symptoms, transmission and prevention: The overall knowledge level about TB was 307(78.3%) good. From 392 respondants, 379 (96.7%) have heard about TB, while 13 (3.3%) of them have not. Out of 379 respondents that have heard of TB, about 33.2% of them received information from health workers, whereas 21.2% through media then followed by combination of different sources (45.6%). Majority (71.7%) of those who have heard of tuberculosis mentioned, about possible modes of transmission were through air, while 5.6% said that it is transmitted through contact with someone who had TB. With respect to clients knowledge about sign and symptom of TB, cough (76.5%) was the most commonly mentioned symptom of TB. Other symptoms mentioned by the respondants include cough and fever (5.6%), cough, weight loss and night sweating (5%). Knowledge of TB prevention, around 60.2% of the respondents knew that it is prevented by covering of one's mouth while sneezing or coughing (Table 1).

Attitude towards tuberculosis: In studying the attitude of respondants, the overall attitude level about TB was 164 good (41.8%) and out of the total 316(80.6%) of them thought they would contract TB; through contact with TB patients 115 (29.3%), through contact with close friend 61(15.6%), through tobacco smoking 83 (21.2%), in work place 12 (3.1%) and the rest are

Table 1: Knowledge of clients about TB symptoms, transmission and prevention

Variables	Frequency	Percent (%)
Source of information		
Health worker	130	33.2
Media	83	21.2
School	18	4.6
Friends	17	4.3
Family members	14	3.6
Media & health worker	40	10.2
Media & school	26	6.6
Media & friend	22	5.6
School & health worker	29	7.4
Don't know	13	3.3
Transmission		
Through air	281	71.7
Through contact	22	5.6
Sharing tools	3	0.8
Inherited	2	0.5
Air & contact	40	10.2
Through water & food	8	2
Air, food & water	20	5.1
Through air & sharing tools	12	3.1
All	2	0.5
Don't know	2	0.5
Sign and symptoms		
Cough	300	76.5
Night sweating	21	5.4
Fever	7	1.8
Weight loss	12	3.1
Cough, night sweating and weight loss	18	5
Cough and fever	22	5.6
All	7	1.8
Others	3	0.8
Don't know	2	0.5
Organs affected by TB		
Lungs	316	80.6
Bone	46	11.7
Abdomen	6	1.5
Brain	18	5
Heart	4	1
Don't know	2	0.5
Prevention		
Ensuring adequate ventilation	16	4.1
Avoiding contact somebody with TB	33	8.4
Avoid smoking	20	5.1
Covering mouth while coughing & sneezing	236	60.2
Avoid consuming raw milk	32	8.2
Choosing separate room	20	5.1
Avoid smoking and adequate ventilation	16	4.1
Avoid contact and adequate ventilation	13	3.3
Don't know	6	1.5
How can TB cured		
Medical intervention	341	87
Holy water	6	1.5
Herbal medicine	8	2
Praying God	3	0.8
Medical and holy water	9	2.3
Herbal and holy water	4	1
Medical and herbal	8	2
Don't know	13	3.3
Do you know the presence of vaccine against TB		
Yes	42	10.7
No	350	89.3
Level of knowledge		
Poor	95	24.2
Good	297	75.8

Table 2: Attitude of clients towards tuberculosis

Variables	Frequency	Percentage
Do you think can get TB		
Yes	316	80.6
No	76	19.4
How do you think you contract TB		
By contact with TB Pt	115	29.3
Close friend	61	15.6
Tobaco smoking	83	21.2
Work place	12	3.1
Exposed to cold	8	2
Smoking & cold exposure	12	3.1
Contact with TB Pt & work place	10	2.6
Contact with TB Pt & close friend	13	3.3
Don't know	2	0.5
What is your reaction if you get TB		
Fear	128	32.7
Surprised	3	0.8
Despaired	17	4.3
Sadness	90	23
Nothing	154	39.3
Do you know someone who had TB		
Yes	361	96.5
No	13	3.5
What is your feeling towards TB pt		
I feel compassion & desire to help	305	77.8
I feel compassion but stay away from them	41	10.5
I am afraid not to be infected	33	8.4
Discriminate them	5	1.3
I haven't particular feeling	8	2
What is others feeling to TB pts		
Many discriminate them	9	2.3
Many help them	318	81.2
Many are friendly but try to avoid them	62	15.8
Don't know	3	0.8
How expensive do you think TB Dx and Rx		
Free of charge	333	84.9
Reasonable price	41	10.5
Moderately expensive	11	2.8
Very expensive	7	1.9
Level of attitude		
Poor	219	55.9
Good	173	44.1

combination of the above. With regard to their reaction if they had TB, most of the respondents (154) (39.3%) said that they felt nothing, 128 (32.7%) of the respondents said that they would experience fear, while others replied that they would experience sadness and desparate.

About 305 of the participants had felt compassion and desire to help the patient, while 41 of them feel compassion but stay away from them, 33 of them afraid not to be infected, 8 of the participants have no particular feeling and 5 of the respondents said that as they would discriminate TB patients. They were asked on how a person who has TB usually treated in their community and about 318 might help them, 62 of them friendly but try to avoid them, 9 of them discriminate and 3 of the participants didn't know (Table 2).

Practice towards Tuberculosis prevention: The overall level of practice on the prevention of TB was good 239 (61%) in this study. About 379 (96.7%) of

Table 3: Practice of clients towards tuberculosis prevention

Variables	Frequency	Percentage
Does your house have window		
Yes	379	96.7
No	13	3.3
if yes, how many windows		
One	351	92.6
Two	19	5
Three	7	1.8
>=Four	2	0.5
Do you open it all the time		
Yes	358	94.5
No	21	5.5
Do you open the window in public transportations		
Yes	295	75.3
No	97	24.7
Have you ever been treated for tb		
Yes	9	2.3
No	383	97.7
if yes, have you got pre-treatment preparation		
Yes	5	55.6
No	4	44.4
What do you do if you have tb		
Consult health worker	375	95.7
Talk to parent & partener	11	2.8
Talk to religious leader	4	1
Don't know	2	0.5
What is your measure if you experience tb symptom		
Seek medical help immediately	339	86.5
Seek medical attention if self treatment fails	6	1.5
Wait for 3-4 weeks before seeking medical help	29	7.4
Wait until become seriously ill	14	3.6
Didn't know	4	1
Have you ever tried to know about tb		
Yes	39	9.9
No	353	90.1
if yes where did you search for		
Nighbours	9	23.1
Health workers	22	56.4
Written documents	5	12.8
Others	3	7.7
Level of practice		
Poor	182	46.4
Good	210	53.6

respondants had window and the rest 13(3.3%) did not have. From those having window, 340 (89.7%) opened window and the rest did not. 295 of participants opened windows in public transportation while the rest did not.

Majority of respondents 375 (95.7%) said that they would consult health worker about their illness if they got TB, while others would like to talk to parents and partners. About 339 (86.5%) of them seek medical care immediately and 14 of the participants wait until they become seriously ill as shown in Table 3.

Associated factors: From the participants monthly family income, most respondents (155) said that as they got 500-1000 per month. Only 76 (19.4%) of the respondents said that as there was health institution which give services for TB cases around their locality. Most of the respondents 203 (51.8%) had family members 7-10 (Table 4).

Table 4: Associated Factors on clients' Knowledge, Attitude, Practice and factors that increase disease burden

Variables	Frequency	Percentage
Are you smoker		
Yes	3	0.8
No	389	99.2
Have you old scar on your upper left arm		
Yes	13	3.3
No	379	96.7
Is there any near by health facility for tb service		
Yes	76	19.4
No	316	80.6
Your family members		
<3	51	13
3-6	94	24
7-10	203	51.8
>10	44	11.2
Have you tested for hiv/aids		
Yes	49	12.5
No	343	87.5
if yes, your result		
Negative	47	96
Positive	2	4
Have you any disease diagnosed		
Yes	26	6.6
No	366	93.4
if yes what is it		
Asthma	6	23.1
Pneumonia	9	34.6
Diabetes	8	30.8
Others	3	11.5
Are you taking any of drugs currently		
Yes	26	6.6
No	366	93.4

DISCUSSION

The aim of this study was to assess clients knowledge, attitude, practice and associated factors towards TB at Yejube health center. The results of this health institution based cross-sectional study showed that, most of the clients at Yejube health center have information about TB and their source of information was health workers. The finding is similar to the results of studies from Gambella Region (41.9%)(Munoz-Sellart *et al.*, 2010) and East Amhara (66.6%) (Kolappan *et al.*, 2008), but higher than the results of studies conducted in Nigeria where majority of the respondents heard about tuberculosis from radio (60%) (Esmael *et al.*, 2013) and higher than the results obtained from India where majority of clients informed for tuberculosis from neighbours (50.5). This indicates that health workers are the main actors of information dissemination in our country about community problems.

Based on the present finding, majority of respondents knew the mood transmission of tuberculosis is inhaled droplet which is similar finding in East Amhara (79.9%) (Kolappan *et al.*, 2008).

Majority of respondents identified cough as major symptom of TB and the result of this study is consistent with finding of studies conducted in East Amhara (86.5%). However, it is higher than in Gambella (22%) where majority of the respondents said hemoptysis as the major symptom of tuberculosis (Munoz-Sellart

et al., 2010). The reason for the difference was socio-cultural factors such as smoking and difference of basic knowledge about tuberculosis. Moreover, in this study the majority of respondents defined TB as curable disease with modern therapy. This was in agreement with study conducted in Nigeria (96.3%) (15) and East Amhara (65.9%) (Esmael *et al.*, 2013). Most of the respondents in this study considered tuberculosis is curable which is similar finding in Nigeria (96.3%) (Kolappan *et al.*, 2008) and different finding from a result of study conducted in Gambella Region where TB is considered killer even after treatment (58%) (Munoz-Sellart *et al.*, 2010).

The overall level of knowledge of clients were good (75.8%) and poor (24.2%) which is quite higher than study conducted in Gambella Region which is 46.4% good and 53.5% poor. This is because there is cultural and infrastructural difference. In this study majority of the respondents thought they will contract TB through contact with TB patients and the study revealed majority of respondents felt fear and desperate if they had TB, which is similar finding in East Amhara (58.3%) and different finding from result of study conducted in India where TB was considered as hereditary disease (45.2%). Further more, how TB patient treated usually in the community is compassion and help which is different finding with research conducted in India. Majority of the respondents said that as many of the community help TB patients which is quite different from the result from a study conducted in India where majority were discriminated (72.6%) (Bati *et al.*, 2013). This difference is due to regional variation. Majority of respondents in this study were aware of free of charge of TB treatment which is similar finding in East Amhara (43.1%) (Esmael *et al.*, 2013) and Nigeria (90.5%) (Kolappan *et al.*, 2008).

The overall level of attitude is good (44.1%) and poor (55.9%) which is higher than study conducted in Gambella Region with good (40.8%) and poor (59.2%). The reason for the difference is due to socio-cultural, infrastructural and basic knowledge about tuberculosis. Based on the present finding, majority of the respondents had window, but 94.5% of them opened it. Furthermore, this finding indicate that, 24.7% of the participants did not open the window in the public transportation. These need health education about the use of opening their window on reducing the chance of contracting TB. More interesting fact was that, majority of study participants in this study reported that they would go to health facility if they thought they had symptoms of TB which is different finding with research conducted in East Amhara which they prefer self treatment (45.3%) (Kolappan *et al.*, 2008) as their first choice. This might be due to lack of accessibility for healthcare service and lack of awareness about the severity of disease.

In this study respiratory track infections are the main risk factors for tuberculosis development which is different result from a result of study conducted in

Gambela Region where alcoholism (42.7%) is considered the main risk factor. This variation could be due life style and socio-cultural differences. Co-infection and poor immunization status are associated factors for tuberculosis burden in our study area which is different finding from a study in East Amhara where cost and transportation (69.9%, 54.5% respectively) are the main factors triggering the disease burden. This is due to infrastructural differences between the study areas.

CONCLUSION

Finally we conclude that even though the majority of our study participants had basic awareness about TB which is not translated in to knowledge that assist them to have good attitude and practice. In addition to this, they had little information about the cause of TB, transmission, prevention and associated factors. Therefore, health education directed towards bringing a significant change in their knowledge and attitude towards patient with TB must be stepped-up within the TB control programme. It would be better to establish an appropriate control measure such as establishing proper information, education and a communication pathway that indicate the level of severity of the disease, tuberculosis. In addition, creating proper awareness about its transmission, prevention, associated factors and availability of public service are very essential.

ABBREVIATIONS

ANC = Anti Natal Care
ART = Anti-Retroviral Therapy
HEW = Health Extension Worker
HIV = Human Immune Virus
KAP = Knowledge, Attitude and Practice

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