International Journal of Community Medicine and Public Health
Ram SA et al. Int J Community Med Public Health. 2020 Dec;7(12):4941-4946
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20205166

Original Research Article

A study on awareness on tuberculosis among urban slum population of Hyderabad

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Received: 28 August 2020
Revised: 28 October 2020
Accepted: 29 October 2020

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ABSTRACT

Background: Tuberculosis a major public health problem in India with highest burden of cases. India accounts for about 24% of global prevalence, 23% of the global incidence cases and 21% of global TB deaths. Irregular and inappropriate treatment of persons with active TB, unawareness about TB symptoms and treatment course, illiteracy, may be the major hurdles for TB eradication.
Methods: A cross sectional, community based study was conducted in urban slum dwellers (n=153). Data compilation and analysis: All the data collected was entered and analyzed with MS excel software 2007 and Epi info 3.5.3. All tests were considered significant at $p<0.05$ level.
Results: 18.3% told that cough+expectoration+evening rise of temperature+weight loss are the signs and symptoms of TB. 55.5% know that it spreads through cough and sneezing mixed with air. 23.5% knows blood examination, sputum examination, X-ray is the mode of diagnosis of TB.
Conclusions: Literacy plays major role in creating awareness on TB.

Keywords: Awareness, Diagnosis, Management of TB, Signs and symptoms, Tuberculosis

INTRODUCTION

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis. It remains a major public health problem in India with highest burden of cases.[1] India accounts for about 24% of global prevalence, 23% of the global incidence cases and 21% of global TB deaths.[2] Even though the organism was discovered a century ago and effective drugs and vaccine are available, it could not eradicated even today. As per the estimations one third of world population are infected asymptomatically with tuberculosis.[3] After the discovery of AIDS the burden of Tuberculosis has been enormously increased as TB became an opportunistic infection in persons suffering from AIDS.[4] In India Tuberculosis is mainly a disease of the poor. The poor living conditions, malnutrition and overcrowding are the main reasons for the spread of the disease.[5]

Irregular and inappropriate treatment of persons with active TB, unawareness about TB symptoms and treatment course, illiteracy, may be the major hurdles for TB eradication. An attempt has been made to assess various causes for the highest burden of TB in urban areas by conducting a health survey.

Aim of the study was to assess the awareness of Tuberculosis among urban slum dwellers of Hyderabad.

Objectives of the study was to assess the knowledge about the signs, symptoms, diagnosis, complications and treatment of TB among the study population and to study the factors associated with the level of awareness among the study population.

METHODS

A cross sectional, community-based study was done on 153 urban slum dwellers of urban slum areas under the field Practice areas of Department of Community medicine, KAMSRC. Study was conducted during November 2019 - December 2019 in two randomly selected slum areas.

Details of the study subjects were recorded using structural predesigned and pretested questionnaire. It includes socio-demographic variables (age, sex, address) and knowledge about the signs and symptoms, diagnosis, complications and treatment and prevention of TB.

An elder person per house during the time of survey were included in the study. One person per house hold was included. (Out of 200 households, 153 houses were surveyed as per the availability of the elder /head of the family)

Out of 08 urban slums under the field Practice areas of Department of Community medicine, 02 slums were randomly selected. At first urban slum areas selected for the study were thoroughly surveyed and number of houses were estimated. The urban slums selected for the study were RTC colony and Saraswathi Nagar.

The staff deployed for the survey were identified as two assistant professors from the department of Community Medicine, two ANMs and two health educators and three internees posted in the department of Community Medicine.

All the data collected was entered and analyzed with MS excel software 2007 and Epi info 3.5.3. All tests were considered significant at $p<0.05$ level.

Inclusion criteria

An elder person or those who are present in the house during the time of survey and those who gave oral consent were included in the study.

Exclusion criteria

Those who are not willing to participate in the study were excluded from the study.

Ethical clearance was taken from institutional ethical committee.

Study subjects were informed about the purpose of the study and have been explained in their language. Oral consent has been taken. To achieve our objective we contacted the local leaders of the slums, and took their help for smooth running of our survey.

A total of 25 questions were included in the scoring system. Each correct answer is awarded one mark. A score of >15/25 is considered good knowledge and <15/25 is considered as average knowledge

Table 1: Knowledge assessment questions.

Knowledge regarding signs and symptoms of TB					
Cough	Expectoration	Evening rise of temperature		Weight loss	Loss of appetite
Knowledge regarding mode of spread of TB					
Sneezing	Cough	Air borne	Direct contact	By sharing food and utensils of a TB case	
Knowledge regarding diagnosis of TB					
Sputum examination	Blood investigation			Chest –x-ray	
Knowledge regarding treatment available of TB					
Antibiotics	ATT		Homeopathic remedies	Ayurvedic treatment	
Knowledge regarding prevention of TB					
Avoiding contact of TB case	Immunization		Regular and appropriate treatment	Personal hygiene	Nutritional food
Knowledge regarding complications of TB					
It is a life threating disease	Spread to other parts of the body		Infertility		

RESULTS

A total number of 153 subjects were interviewed, out of which 87 (56.86%) are males and 66 (43.13%) are females. In that 22 are illiterates and the remaining 131 are educated and in that 41 are graduates and post graduates. When we look into the occupation, 61 are unskilled, 55 are semi-skilled and 16 are skilled workers. Four are professionals and 16 are in semi-profession. (Table 2).

In our study, the knowledge about signs and symptoms, almost all the subjects know one are two signs and symptoms of TB. Out of 153, 48 people (31.4%) told that

cough is the main symptom, 33 people (21,5%) told that cough with expectoration, 44 subjects (28.8%) told that cough + expectoration + evening rise of temperature, and the remaining 28 persons(18.3%) told that cough + expectoration + evening rise of temperature + weight loss will be there (Table 3).

In the present study, on mode of spread of TB, 85 subjects (55.5%), know that it spreads through cough & sneezing mixed with air. 29 subjects (18.9%) told that it spreads through direct contact and remaining 39 persons (25.5%) told that it spreads through food and utensils.

It has been found that knowledge of diagnosis of TB, 68 persons (44.4%) or of the opinion that it spreads through sputum examination, 49 subjects (32.1%) sputum + blood examination and the remaining 36 persons (23.5%) told that in addition to blood and sputum, x–ray is also necessary.

Table 2: Demographic profile of the of study population.

	N (%)
Age (in years)	
20- 25	3 (2.0)
26-30	38 (24.8)
31-35	26 (17.0)
36-40	44 (28.8)
41-45	30 (19.6)
46-50	12 (7.8)
Sex	**N (%)**
Male	87 (56.9)
Female	66 (43.1)
Education	**N (%)**
Illiterate	22 (14.4)
Primary school	33 (21.6)
Secondary	25 (16.3)
Intermediate	32 (20.9)
Graduate	37 (24.20
Post graduate	4 (2.6)
Occupation	**N (%)**
Unskilled	61 (39.9)
Semiskilled	56 (36.6)
Skilled	16 (10.5)
Semi profession	16 (10.5)
Professional	4 (2.6)

The opinion of the subjects on treatment is, that 30 subjects (19.6%) told that Antibiotics are necessary, 33 persons (21.5%) in addition to Antibiotics, Anti-tubercular treatment (ATT) at DOTS Centre. 46 persons (30.1%) told that only ATT is necessary. 32 persons (20.9%) told about Homeopathy treatment and 12 persons (7.8%) about Ayurveda treatment.

On the knowledge of prevention of TB, about 23.5% told to avoid contact with TB patient, 20.2% about immunization, 17.6% about regular and appropriate treatment, 14.4% about personal hygiene and remaining 18.3% told about good nutritional food regarding preventive measures of TB. Regarding complications, our study revealed that 60.1% people are of the opinion that it is life threatening. 29.4% people told that it spreads to other parts of body and 10.5% people said that it leads to infertility.

Table 3: Knowledge regarding signs and symptoms, mode of spread and diagnosis of TB.

	N (%)
Knowledge regarding signs and symptoms of TB	
Cough	48 (31.4)
Cough with expectoration	33 (21.5)
Cough, expectoration and evening rise of temperature	44 (28.8)
Cough, expectoration, evening rise of temperature and weight loss	28 (18.3)
Knowledge regarding mode of spread of TB	
Sneezing	21 (13.7)
Cough	32 (20.9)
Air borne	32 (20.9)
Direct contact	29 (18.9)
By sharing food and utensils of a TB case	39 (25.5)
Knowledge regarding diagnosis of TB	
Sputum examination	68 (44.4)
Sputum examination and blood investigation	49 (32.1)
Sputum examination, blood investigation and chest –x-ray	36 (23.5)
Knowledge regarding treatment available of TB	
Antibiotics	30 (19.6)
Antibiotics and ATT	33 (21.5)
Anti Tuberculous Treatment at DOTS	46 (30.1)
Homeopathic remedies	32 (20.9)
Ayurvedic treatment	12 (7.8)
Knowledge regarding prevention of TB	
Avoiding contact of TB case	36 (23.5)
Immunization	40 (26.2)
Regular and appropriate treatment	27 (17.6)
Personal hygiene	22 (14.4)
Nutritional food	28 (18.3)
Knowledge regarding complications of TB	
It is a life threating disease	92 (60.1)
Spread to other parts of the body	45 (29.4)
Infertility	16 (10.5)

It was found that out of 153, 101 study population had good knowledge regarding signs and symptoms, 87 had good knowledge about diagnosis, 79 had good knowledge about treatment and 105 had good knowledge about preventive measures of tuberculosis (Table 4).

Table 4: Factors influencing the knowledge of TB among the study population.

Factors	Literacy status	Good knowledge	Average knowledge	Total
Knowledge regarding signs and symptoms	Illiterate	10	12	22
	Literate	91	40	131
p value<0.02			Total	153
Knowledge regarding diagnosis of TB	Illiterate	12	10	22
	Literate	75	56	131
p value<0.05			Total	153
Knowledge regarding	Illiterate	9	13	22
Treatment of TB	Literate	70	61	131
p value: >0.05			Total	153
Knowledge regarding preventive measures of TB	Illiterate	11	11	22
	Literate	94	37	131
p value>0.05			Total	153

It was found that the knowledge regarding clinical signs and symptoms was found to be higher in the literate population and was statistically significant. A significant relation was found in literacy status and the knowledge regarding diagnosis of TB among study population. Knowledge regarding Treatment of TB and preventive measures was found to be higher in literate study population (statistically not significant).

DISCUSSION

A total number of 153 subjects were enrolled, out of which 87 (56.86%) are males and 66 (43.13%) are females. In that 22 are illiterates and the remaining 131 are educated and in that 41 were graduates and post graduates. When we look into the occupation, 61 are unskilled, 55 are semi-skilled and 16 are skilled workers. Four are professionals and 16 are in semi-profession. (Table 1). In a study by conducted by Jangid, males were 65.7% and females 34.3% and 27.5% of the study populations were literate.[6]

We found that, out of 153, 48 people (31.4%) knows that cough is the main symptom, 33 people (21.5%) cough with expectoration, 44 subjects (28.8%) cough+expectoration+evening rise of temperature, and the remaining 28 persons (18.3%) revealed that cough+expectoration+evening rise of temperature+weight loss. In our study on mode of spread of TB, 85 subjects (55.5%), know that it spreads through cough and sneezing mixed with air. 29 subjects (18.9%) spreads through direct contact and remaining 39 persons (25.5%) told that it spreads through food and utensils. In a study conducted by Sharad et al it was found that 36.9% urban population knew that TB is associated with cough and 30% knew that it is associated with weight loss.[7] And it was found that 21.5% of urban population knew that it is transmitted through droplets of air. A study conducted Chinnakali et al found that 82% knew that TB spreads through cough, followed by weight loss (28%) and fever (14%) and 81% revealed that spread can be from person to person.[8] In a study by conducted by Jangid et al found that 81.3% considered the cough as commonest symptom.[6] In a study by Chandrashekar, the common misconceptions about transmission were "Through food" (32.4%), "Sharing utensils" (18.2%), and "Touching a person with tuberculosis" (12.3%).[9] Only 29.7% participants had correct knowledge without misconceptions. In our study, regarding knowledge of diagnosis of TB, 68 persons (44.4%) knew that through sputum examination, 49 subjects (32.1%) sputum + blood examination and the remaining 36 persons (23.5%) knew that in addition to blood and sputum, X–ray is also necessary. A study conducted Chinnakali et al, found that 40.% of the study population knew that diagnosis of TB is by sputum examination, 8% by X-ray chest and 32% by blood test A study by Jangid et al 64.7% study population agreed that X-ray chest and 59.8% considered sputum examination for the diagnosis of TB.[6,8] In the present study, regarding knowledge of treatment, we found that 30 subjects (19.6%) said Antibiotics, 33 persons (21.5%) revealed that in addition to Antibiotics, Anti-tubercular treatment (ATT) is necessary. 46 persons (30.1%) knows that only ATT is necessary and it is available free of cost at DOTS center. 32 persons (20.9%) told about Homeo treatment and 12 persons (7.8%) about Ayurveda treatment. A study by Jangid et al 73.5% of the study population knew that treatment is available in Government centers free of cost and 9.8% have heard about DOTS.[6]

In our study, we found that various measures of prevention of TB, to avoid contact with TB patient (23.5%) immunization (20.2%) regular and appropriate treatment of TB case (17.6%), personal hygiene (14.4%) and remaining told about good nutritional food (18.3%). In the study by Sharad, only 3.1% of population knew that TB can be prevented by BCG vaccine.[7] Madhu et al in their study found that 9.1% knew about BCG vaccine for prevention.[10] Amgain et al in their study found that 81.5% knew about prevention of TB through vaccination.[11] A study by Jangid et al, it is observed that 83.4% subjects have not heard about vaccination.[6]

In the present study, on knowledge of complications, 60.1% people knew that it is life threatening. 29.4% people revealed that it spreads to other parts of body and

10.5% people told that it leads to infertility. A study conducted by Jangid et al found that 7.8% respondents said that TB can affect any organ of the body.[6] A study conducted Chinnakali et al,71% of the study population considered it as a serious disease.[8]

We found that out of 153, 101 study population had good knowledge regarding signs and symptoms, 87 had good knowledge about diagnosis, 79 had good knowledge about treatment and 105 had good knowledge about preventive measures of tuberculosis. In our study we found that the knowledge regarding clinical signs and symptoms was higher in the literate population and was statistically significant. A significant relation was found in literacy status and the knowledge regarding diagnosis of TB, among our study population. Knowledge regarding treatment of TB and preventive measures was found to be higher in literate study population (statistically not significant).

In a study by Jangit et al, it was found that the knowledge about TB was more significant in literates.[6] In a study conducted by Das et al, the literacy status had a significant influence on awareness about TB.[12] A study conducted in Tamilnadu by Kala et al there was significant association between the knowledge on TB among study population and the demographic variables of educational status AOR 2.48 (95% CI 1.46 -4.22), marital Status AOR 2.23 (95% CI 1.21-4.10) and Caste AOR 2.22 (95%CI 1.14-4.34) respectively.[13]

Limitation

Persons who are not available during the survey were not included in the study. The same area was not visited again

CONCLUSION

In our study, 18.3% told that cough+expectoration+evening rise of temperature+weight loss are the signs and symptoms of TB. Majority revealed (55.5%) that it spreads through cough and sneezing mixed with air. Regarding the diagnosis, 23.5% knows blood examination, sputum examination, x –ray is the mode of diagnosis of TB. 60.1% people knew that it is life threatening condition. We found that out of 153, 101 study population had good knowledge regarding signs and symptoms. A significant relation was found in literacy status and the knowledge regarding diagnosis of TB, among our study population. Knowledge regarding treatment of TB and preventive measures was found to be higher in literate study population.

Literacy plays major role in creating awareness on TB.

Recommendations

Awareness programmes are to be conducted at regular intervals in the urban slums and rural areas also with latest updates on TB, to bring the nation to at least "Elimination Stage".

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Ram SA, Krishna RMN, Singh SPC. A study on awareness on tuberculosis among urban slum population of Hyderabad**.** Int J Community Med Public Health 2020;7:4941-6.