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A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE OF URBAN AND RURAL POPULATION REGARDING TUBERCULOSIS AND ITS MANAGEMENT

PERIADURACHI KUMAR*[1] AND DR. K.R.JOHN[2]

[1]Principal, Garden City College of Nursing, Bangalore
[2]Prof & HOD, Dept of Community Medicine, SRM Medical college, Kattankulathur

ABSTRACT

Tuberculosis continues to be a burden for India with the country still registering a high death rate for and it is completely curable by early diagnosis and treatment regime. Lack of knowledge about the disease and treatment is the major cause for this. The study was aimed to assess the knowledge and attitude of urban and rural general population regarding tuberculosis and its managements in selected villages at Bangalore. Descriptive research design was adopted and systematic sampling technique was used to select the sample. The study was conducted in two villages of Bangalore, where 235 samples from urban village and 235 samples from rural village who satisfied the sampling criteria and voluntarily consented for the study were selected. Structured questionnaire for assessing the knowledge and 5 point scale for assessing the attitude were used to collect data from the samples. The data obtained was analyzed using descriptive and inferential statistical methods and interpreted in relation to the objectives of the study. The level of significance was set at $p<0.05$. In urban population, knowledge of tuberculosis and its management was adequate in 4.68% of the participants where as in rural population it was adequate in only 0.85% of the participants. In urban population the attitude was found to be good for 91.91% and in rural population it was 97.4%. Study concludes that the general population should be sensitized with the knowledge of tuberculosis and its management to enhance their understanding and to have a better attitude.

KEY WORDS: ***Tuberculosis, knowledge, attitude, general population.***

PERIADURACHI KUMAR
Principal, Garden City College of Nursing, Bangalore, India

***Corresponding author**

INTRODUCTION

Tuberculosis (TB) remains a major global health problem. It causes ill-health among millions of people each year and ranks as the second leading cause of death from an infectious disease worldwide, after the *human immunodeficiency virus* (*HIV*) due to a single infectious agent[1]. [1] TB is an infectious disease caused by the bacillus *Mycobacterium tuberculosis*. Without treatment, TB mortality rates are high. In studies of the natural history of the disease (*M.Tuberculosis*) among sputum smear positive/ HIV-negative cases of pulmonary TB, around 70% died within 10 years; among culture-positive (but smear negative) cases, 20% died within 10 years[2]. Tuberculosis is an infectious disease that spread from one person to another through air in the form of droplet nuclei and 15-59 is the most productive age group. Tuberculosis typically attacks the lungs, but can also affect other parts of the body. In 15– 20% of active cases, the disease affects organs other than the lungs, causing extra-pulmonary TB. Notable extra pulmonary infection sites include the pleura, the central nervous system, the lymphatic system, the genitourinary system, and the bones and joints[3, 14]. Worldwide, there were 9.0 million TB cases in 2013 and 1.5 million TB deaths. More than half (56%) of the incident cases occurred in the South-East Asia and Western Pacific regions. India and China alone accounted for 24% and 11% of total cases, respectively[1]. Even today in India, two deaths occur every three minutes from TB.[4] The control of tuberculosis still remains elusive as the epidemic of tuberculosis (TB), continues to play havoc in many countries, particularly low income countries and is being further fuelled by *human immunodeficiency virus (HIV*) co-infection and increase in resistance to currently available antimycobacterial drugs[6]. India continues to have one-fifth of the world's tuberculosis burden, with the country still registering a high death rate for a disease that is completely curable by early diagnosis and adhering to strict treatment regime[7]. In order to implement various measures to prevent tuberculosis infection, it is essential to know the process of transmission and pathogenesis of the disease[8]. In India, people are still under the impression that TB is a disease of poor people, mostly of those living in slums. They need to know that anybody can get infected when exposed to an infectious patient. That the community awareness is of vital importance in combating tuberculosis - a public health problem in our country has been highlighted from various studies across the country[5]. Lack of knowledge about the disease and stigmatization causes underutilization of the services, delay in seeking diagnosis, and poor treatment adherence. Several international studies have reported poor knowledge, attitudes and practices about TB. Non-adherence to treatment often results from inadequate knowledge or understanding of the disease and its treatment[9]. Awareness among the general population, regarding TB is important and it leads to timely treatment seeking. Knowledge about the common symptoms of TB and the availability of free diagnosis and treatment facility for TB will help in improving the treatment seeking behavior[10]. Patients' adherence to the treatment depends on many psychological and sociological factors including age, education level and patient's own idea about the disease[11]. Hence it becomes an imminent need to investigate the public awareness in terms of knowledge regarding the various aspects of tuberculosis. Nurses play a pivotal role in creating public awareness in order to curb this disease at an early stage, thereby preventing the irreversible complications of it.

OBJECTIVES

To assess the level of knowledge and attitude of urban and rural general population regarding tuberculosis and its management.

To find out the association in level of knowledge and attitude between urban and rural population regarding tuberculosis and its management with selected socio-demographic variables.

MATERIALS AND METHODS

Descriptive research design was adopted and systematic sampling technique was used to select the sample. Two villages, one from Bangalore urban and one from rural were selected for the study based on operational feasibility. Systematic sampling technique was used to select the sample and the family members who were between 15 to 65 years of age and present on the day of data collection were included. Total of 235 samples from urban and 235 samples from rural who satisfied the sampling criteria were selected for the present study. The data collection procedure was explained to each study participant. After establishing rapport, brief introduction was given about the study and its purpose; informed oral consent was obtained from the respondent after assuring confidentiality. The structured interview questionnaire consists of 30 items with the following domains was administered; general information on tuberculosis, risk factors, mode of transmission, clinical manifestations and diagnosis, management and prevention of tuberculosis. After that a 5 point attitude scale consists of 20 items of which 10 positive and 10 negative statements regarding tuberculosis and the stigma prevailing on the society was administered to all the participants. Relatives who came to visit them and locked houses were excluded from the study.

RESULTS

Table 1 interprets the information of study participants frequency and distribution with sociodemographic variables. Majority of them 82(34.89%) belongs to 36-45 years in urban and 85(36.17%) belongs to rural. About gender most of them 190(80.85%), 154(65.53%) belongs to female in urban and rural respectively. Most of them 104(44.25%) in urban, 102(43.40%) in rural had secondary education. Regarding marital status 168(71.48%) in urban, 175(74.46%) in rural were

married. Majority of them 129(54.89%) and 159(67.65%) were Hindus in urban and rural respectively. Most of them were belongs to nuclear family and majority of them were earning 5000-10000/month. 113(48.08%) in urban and 162(68.93%) had previous knowledge about TB and the sources of knowledge was through television. Only 14(5.95%) in urban 13(5.53%) in rural had the family history of TB

Table 1
Frequency and percentage distribution of study participants N = 470

Characteristics		URBAN	RURAL
		Frequency (%)	Frequency (%)
Age in years	15 – 25	53 (22.5)	53 (22.5)
	26 - 35	45 (19.14)	85 (36.17)
	36 - 45	82 (34.89)	32 (13.61)
	46 - 55	42 (17.87)	31 (13.19)
	56 - 65	13 (5.53)	24 (10.21)
Gender	Male	45 (19.15)	81 (34.46)
	Female	190 (80.85)	154 (65.53)
Educational Qualification	Illiterate	14 (5.95)	17 (7.23)
	Primary	75 (31.91)	80 (34.04)
	Secondary	104 (44.25)	102 (43.40)
	Graduates	32 (13.61)	36 (15.31)
Occupation	Housewife	156 (66.38)	102 (43.40)
	Coolie	15 (6.38)	41 (17.44)
	Agriculture	7 (2.97)	35 (14.89)
	Others	57 (24.25)	57 (24.25)
Marital Status	Married	168 (71.48)	175 (74.46)
	Unmarried	37 (15.74)	28 (11.91)
	Widow/widower	30 (12.76)	31 (13.19)
Religion	Hindu	129 (54.89)	159 (67.65)
	Muslim	53 (22.55)	48 (20.42)
	Christian	50 (21.27)	10 (4.25)
	Others	3 (1.27)	18 (7.65)
Monthly Family income	< 5000 rs	26 (11.06)	23 (9.78)
	5000 – 10,000	140 (59.57)	139 (59.14)
	>10,000	69 (29.36)	73 (31.06)
Type of Family	Nuclear	158 (67.23)	118 (50.21)
	Joint family	71 (30.21)	104 (44.25)
	Extended Joint family	6 (2.55)	13 (5.53)
Previous knowledge About TB	Yes	113 (48.08)	162 (68.93)
	No	122 (51.91)	73 (31.06)
If yes How	Health workers	14 (12.38)	35 (21.60)
	Television	69 (61.06)	100 (61.72)
	Radio	5 (4.42)	1 (0.61)
	News paper	25 (22.12)	25 (15.43)
	Others	0 (0)	1 (0.61)
Family history of TB	No	221 (94.04)	222 (94.46)
	Yes	14 (5.95)	13 (5.53)

It was found that (Table 2) in urban population (235), 83.40% of the participants had moderate knowledge, 4.68% had adequate knowledge and 11.91% had inadequate knowledge. Where as in rural population (235), 79.57% of the participants had moderate knowledge, 0.85% had adequate knowledge and 19.57% had inadequate knowledge. Regarding attitude in urban population, 91.91% of the participants had good attitude, 0.42% had excellent attitude and 7.65% had moderate attitude and none had a poor attitude. Where as in rural population, 97.44% had good attitude, 2.55% had moderate attitude and none had excellent and poor attitude.

Table 2
Frequency distribution of study participants based on their knowledge and attitude towards tuberculosis and its management

N = 470

Characteristics	Domain	URBAN	RURAL
		Frequency (%)	Frequency (%)
Knowledge	Adequate	11 (4.68)	2 (0.85)
	Moderate	196 (83.40)	187 (79.57)
	Inadequate	28 (11.91)	46 (19.57)
Attitude	Excellent	1 (0.42)	0 (0)
	Good	216 (91.91)	229 (97.44)
	Moderate	18 (7.65)	6 (2.55)
	Poor	0 (0)	0 (0)

Table 3 explain based on the domain, in urban population 56.02% answered to the general information about tuberculosis like the status of tuberculosis in India, causative agent, common site of tuberculosis, commonly affected gender and socioeconomic group. In rural population 54.96% answered to the above specified general information. In urban population 23.39% of them were aware about the risk factors of TB whereas it was only 17.23% in rural population. Among urban population 18.29% participants knew about the mode of transmission whereas in rural it was 22.12%. 29.36% and 42.55% answered how TB is transmitted and 7.23% and 1.7% were aware of the sources of TB among urban and rural population respectively. Regarding clinical manifestations and diagnosis of tuberculosis 33.82% of urban population were aware of it whereas in rural it was only 16.91. In urban, 65.10% knew the diagnosis of tuberculosis among children and 10.21% knew the signs and symptoms of TB in children whereas in rural it was 37.02% and 6.38% respectively. Concerning the domain of management and prevention, 48.04% of urban and 45.52 of rural populations were aware of the management and prevention of TB. In relation to attitude of urban, 72.7% of participants were strongly agreed that TB is a communicable disease, 85% of them strongly disagreed that one can take the TB drugs without consulting the doctor directly from the pharmacy, 20.4% of the sample strongly agreed that TB is a death verdict unless treated. Further 51% of them had agreed that man can lead a normal life after taking the medicines. Whereas in rural, 68% of participants were strongly agreed that TB is a communicable disease, 55.3% of them strongly disagreed that one can take the TB drugs without consulting the doctor directly from the pharmacy, only 5.1% of them strongly agreed that TB is a death verdict unless treated, 64.2% agreed that a man can lead a normal life after taking the medicines for TB.

Table 3
Percentage of study participants based on their knowledge towards tuberculosis and its management with domains

N = 470

Domain	Urban (235)	Rural (235)
General information regarding tuberculosis	56.02%	54.96%
Risk Factors	23.39%	17.23%
Mode of Transmission of tuberculosis	18.29%	22.12%
Clinical Manifestations and diagnosis	33.82%	16.91%
Management and prevention of tuberculosis	48.04%	45.52%

Table 4 projects that n urban population there was a statistically significant association between age, gender, educational qualification, religion, family history of TB with knowledge regarding tuberculosis and its managements, whereas in rural the significance was found only with previous knowledge about TB and family history of TB. Regarding attitude in urban population, there was a significant association between marital status, type of family and previous knowledge about TB with their demographic variables, whereas in rural population the significance was found with previous knowledge about TB and family history of TB. The level of significance was set at $p<0.05$ levels.

Table 4
Association between demographic variables and knowledge and attitude of study participants regarding tuberculosis

N = 470

Demographic variables	Urban				Rural			
	Knowledge		Attitude		Knowledge		Attitude	
	$\chi 2$	P value	$\chi 2$	P value	$\chi 2$	P value	$\chi 2$	P value
Age	29.8*	0.000	7.72	0.461	9.83	0.099	3.79	0.435
Gender	7.82*	0.020	2.59	0.273	1.17	0.556	0.864	0.535
Educational Qualification	38.6*	0.00	6.97	0.324	10.7	0.099	3.22	0.358
Occupation	7.29	0.295	9.99	0.125	8.40	0.210	1.83	0.608
Marital status	8.47	0.76	25.2*	0.000	8.10	0.231	2.53	0.470
Religion	25.5*	0.00	2.55	0.863	11.4	0.077	0.958	0.821
Monthly family Income	11.4	0.023	5.96	0.20	5.20	0.267	0.395	0.821
Type of family	6.07	0.194	19.0*	0.001	2.30	0.680	3.85	0.146
Previous knowledge about TB	3.27	0.195	15.2*	0.001	7.45*	0.024	3.64	0.056
If yes, how	16.2	0.013	7.85*	0.49	6.98	5.39	0.718	0.949
Family history of TB	20*	0.000	1.32	0.518	8.13*	0.017	0.361	0.548

Significance

DISCUSSION

TB is a common disease in developing countries, which is curable with appropriate treatment nevertheless, unable to eradicate it due to lack of awareness among public about tuberculosis and the services available in the healthcare system. It is high time to initiate sensitizing education to make the public to have adequate knowledge on leading infectious diseases. The present study depicts that both the urban and rural populations are having less knowledge about TB. The knowledge about the risk factors, mode of transmission, clinical manifestations, diagnosis, management and prevention is below average. Whereas with regard to attitude majority of them both in urban and rural population, agreed TB as a communicable disease and it is preventable by vaccination and they strongly agreed that TB medication cannot be taken without doctor's consultation. In general, in urban population out of 235 participants most of them (82.9%) were aware that tuberculosis is caused by microorganism, 88% of the participants were aware that tuberculosis can be cured only by taking anti TB drugs, 92.3% of them were aware that the medicine for tuberculosis are available at free of cost at government health care institutes and 76.5% of them knew that BCG is the vaccine given against tuberculosis. At the same time only 3.8% of them responded that how to reduce the spread of tuberculosis, 29.3% of them responded that tuberculosis is transmitted through air while sneezing and coughing, 40.4% of them were aware of the signs and symptoms of tuberculosis and only 19.5% were aware that tuberculosis is diagnosed by sputum examination. In rural population, 92.7% of the participants were aware that tuberculosis can be cured only by taking anti TB drugs, 87.6% of them were aware that the medicine for tuberculosis is available at free of cost at government health care institutes, and 77% of the participants knew that BCG is the vaccine given against tuberculosis. At the same time only 1.7% of them responded how to reduce the spread of tuberculosis, 42.5% of them were aware that tuberculosis is transmitted through air while sneezing and coughing, 10.6% of them were aware of the signs and symptoms of tuberculosis and 13.6% of them were aware that tuberculosis is diagnosed by sputum examination. The above analysis is supported by a cross-sectional study which was conducted in an urban slum in South India using a structured, pretested questionnaire. Domains identified were knowledge about TB, symptoms, spread, diagnosis, treatment, and prevention of TB. A total of 395 households were interviewed. Of them, 370 (94%) respondents had heard about TB. Regarding the symptoms of TB, 82% were aware that cough is a symptom of TB. Among the study subjects, 79% responded that any test can be done to diagnose TB, and only to 40%, sputum examination was known as a method of diagnosing TB. However, 84% of the subjects were aware of the free treatment available for TB under National program. Level of awareness about TB among urban poor in a slum area is good. Knowledge about "free treatment" and "duration of treatment" has to be stressed during health education activities[12]. Community participation is now recognized as a major component in the approach to the whole system of health care-

treatment, promotion and prevention. The stress is on the provision of these services to the people representing a shift from medical care to health care and from urban population to rural population[13]. Keeping in mind the famous saying "prevention is better than cure", the first level of prevention is effective in health care system. So adequate knowledge should be provided and necessary precaution should be taken to prevent TB. We can reduce this problem to a minor nuisance with adequate education and health practices.

CONCLUSION

Based on the findings of the study, it is concluded that, the knowledge of urban population is higher than the knowledge of rural population regarding tuberculosis and its management. But the attitude of rural population is better than the urban population. Creating awareness among public through media will reach many people to learn about tuberculosis and its management, ultimately aid the country to prevent the disease, identifies it in early stage, adhere to treatment and reduce the mortality and morbidity.

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