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KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) REGARDING TUBERCULOSIS AND ITS TREATMENT, AMONG TB PATIENTS AT TB CLINIC OF UDAIPUR, RAJASTHAN.

Community Medicine

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ABSTRACT

India is the country with the highest burden of TB. The World Health Organization (WHO) TB statistics for India for 2016 give an estimated incidence figure of 2.79 million cases of TB in India. Lack of compliance to TB treatment has contributed to steady rise of TB. According to WHO, TB is a worldwide pandemic. Among the 15 countries with the highest estimated TB incidence rates, 13 are in Africa, while half of all new cases are in six Asian countries, viz., Bangladesh, China, India, Indonesia, Pakistan and Philippines. A WHO fact sheet dated March 2010 on tuberculosis stated that overall one third of the world's population (over 2 billion) is currently infected with the TB bacillus. According to it, every second, someone in the world is newly infected with TB bacilli and 1 in every 10 of these newly infected people will become sick or infectious later in life. In Rajasthan number of persons having diagnosed for TB is 210 per 1 lac population, whereas in Udaipur the number is 176 per 1 lac population.

OBJECTIVES: To determine knowledge, attitude and practice regarding TB treatment among Pulmonary Tuberculosis patients attending TB clinic at a tertiary hospital.

DESIGN AND MEASURES: A cross sectional descriptive study was conducted on a convenient sample of 260 pulmonary TB patients receiving health care at TB treatment clinic in Udaipur, Rajasthan. An interview schedule comprising of four sections (demographic, knowledge, attitude and practice) was used to collect data.

RESULTS : In this study , majority of patients had an average level of knowledge regarding TB. Majority of patients possessed good attitude and following good practice. This may be the reason behind good case detection and treatment success rate of DOTS and we can hope for further succcess of STOP TB STRATEGY There is no significant difference between male and females on the basis of knowledge, attitude and practice. The study revealed very important aspect that knowledge is not a direct determinant of practice, but the attitude has a lot of influence on patients in taking proper treatment. It is vital therefore, to find ways of improving attitude along with enhancing awareness/ knowledge among mass to stop TB as a global health issue.

KEYWORDS

INTRODUCTION:

Tuberculosis (TB) has existed for millennia and remains a major global health problem. It causes ill-health for approximately 10 million people each year and is one of the top ten causes of death worldwide. For the past 5 years, it has been the leading cause of death from a single infectious agent, ranking above HIV/AIDS.[1] This is despite the fact that, with a timely diagnosis and correct treatment, most people who develop TB disease can be cured. Tuberculosis (TB) is an infectious disease usually caused by the bacterium *Mycobacterium tuberculosis* (MTB). Tuberculosis generally affects the lungs, but can also affect other parts of the body. Presently, one-third of the world's population is thought to be infected with TB[2]. DOTS (directly observed treatment, short course) is the internationally recommended control strategy for TB[3]. This strategy includes the delivery of a standard short course of drugs, lasting 6 month for new patients and 8 month for retreatment patients, to individuals diagnosed with TB. The delivery includes the direct observation of therapy (DOT), either by a health worker or by someone nominated by the health worker and the patient for this purpose (sometimes called a DOT supporter). The strategy has been promoted widely and implemented globally. Up to half of all of patients with TB do not complete treatment[4], which contributes to prolonged infectiousness, drug resistance, relapse, and death[5]. The difficulty experienced by patients following a particular treatment regimen has raised awareness of adherence as a complex behavioral issue, influenced by many factors ,including gender and the impact of HIV/AIDS. WHO has attempted to classify factors that influence adherence to TB treatment based on a cursory review of key papers[6], but the impact of gender[7] and HIV status[8] on adherence are less well documented in the qualitative literature.Efforts to improve treatment outcomes require a better understanding of the particular barriers to and facilitators of adherence to TB treatment, and of patient experiences of taking treatment[9].

Pulmonary tuberculosis diagnosis and treatment; Diagnosis is made primarily based on sputum smear examination. X-rays play a secondary role in the standard diagnostic algorithm for pulmonary tuberculosis. Sputum smear microscopy, using the Ziehl-Neelsen staining technique (>99% test sensitivity) , is employed as the standard case-finding tool. Two sputum samples are collected over two days (as spot-morning/morning-spot) from chest symptomatic. As a national health program, RNTCP pays more attention to the sputum-positive pulmonary tuberculosis patients (who are likely to spread the disease in the community) than people with other, non-pulmonary forms of the disease.

Treatment categories and drug regimens;

Standardized treatment regimens are one of the pillars of the DOTS strategy. Isoniazid, Rifampicin, Pyrazinamide, Ethambutol, and Streptomycin are the primary antitubercular drugs used. Most DOTS regimens have thrice-weekly schedules and typically last for six to nine months, with an initial intensive phase and a continuation phase.

Based on the nature/severity of the disease and the patient's exposure to previous anti-tubercular treatments, RNTCP classifies tuberculosis patients into two treatment categories.

New*	**Previously treated****
New sputum smear-positive, New sputum smear-negative, New extrapulmonary tuberculosis, Others	Sputum smear-positive relapse, Sputum smear-positive failure, Sputum smear-positive treatment after default, others#
2HRZE+4HRE	***2HRZES+1HRZE+5HRE***
2 months intensive phase + 4 months continuation phase Four drugs at Thrice-weekly Schedule for 2 months Intensive phase Two drugs at Thrice-Weekly Schedule for remaining 4 months continuation phase.	3 months intensive phase + 5 months continuation phase Five drugs at thrice-weekly Schedule for initial 2 months followed by Four drugs for next 1 month Intensive phase.Three drugs at Thrice-weekly Schedule for remaining 5 months continuation phase.

METHODS

STUDY DESIGN AND SETTING

A cross sectional descriptive quantitative time bound design for study was used. The study sought to describe knowledge, attitude and

practice of TB patients towards tuberculosis treatment. The study was conducted at TB clinic, Hathipole, Udaipur, Rajasthan . Udaipur has a population of about 4.51 lac people. This centre was chosen because along with having facility of diagnosis and treatment, data of tuberculosis patients under RNTCP are compiled here as being DTO. PTB patients receiving treatment were interviewed for 3 months from 5th January 2018 to 5th April 2018 between 10AM to 2PM. Hence total 260 patients were interviewed.

STUDY POPULATION

The accessible population comprised all pulmonary tuberculosis patients during the period of data collection. All PTB patients receiving health care at the this centre were included. PTB patients (15 years and above); on tuberculosis treatment for at least one month; physically and mentally able to undergo a 10-20 minute interview; and receiving health care at this centre were included to participate in the study after taking well informed verbal consent .

Data Collection

A pre tested semi-structured questionnaire was used to collect data. It consisted of four sections. Section A sourced information on demographic variables (age, sex, education level, occupation, monthly income and area of residence). Section B elicited information on knowledge of tuberculosis treatment (Knowledge about TB, PTB and Extra PTB, its spread, treatment, where to get treatment from, duration of treatment, side effects of drugs, relapse/ failure of treatment and other related things to TB). Likert Scale was modified and used to measure attitude in Section C (How you see TB as a disease & TB patients as a person, your behavior towards

TB patients, how will/would you like to behave with them, TB treatment and related things). Section D consisted of questionnaire depicting practice of patients towards TB treatment (How you deal with TB disease, TB patients in family/ friends, how do you take/ took/ would like to take treatment if you have/had/ever get the disease). Permission to collect data from the TB clinic was obtained from the district tuberculosis officer of Udaipur district attached to MB Hospital, Udaipur(Raj), and Informed verbal consent was also taken from each respondent prior to the interviews from all those who were included in the study,.

Definition of Variables

Knowledge was related to what PTB patients knew about TB treatment and was measured through asking questions on tuberculosis treatment, developed by the investigators. Twenty two questions were asked, two marks was allocated to each correct answer and one for incorrect and zero for don't know response.

Attitude was defined as the strength of resiliency and involved how a TB patient looks at her/himself, her/his world and the way these two interact9.Likert scale was used to measure attitude. Ten questions were asked, two marks was allocated to each positive answer and one for negative and zero for don't know response.

Practice the actual application or use of an idea, belief, or method, as opposed to theories relating to it. Ten questions were asked, two marks was allocated to each positive answer and one for negative and zero for don't know response.

RESULTS

TABLE 1: Distribution of TB patients according to socio demographic variables.

VARIABLES	GROUPS	MALE	FEMALE	TOTAL
AGE(YEARS)	15-24	41	25	66(25.3%)
	25-34	49	20	69(26.5%)
	35-44	32	12	44(16.9%)
	45-54	35	7	42(16.1%)
	55-64	24	4	28(10.7%)
	65 and above	9	2	12(4.6%)
	TOTAL	190(73 %)	70(26. 9%)	260
AREA	RURAL	129	43	172(66.15%)
	URBAN	61	27	88(33.8%)
	TOTAL	190	70	260
EDUCATION	ILLITEARTE	43	24	67(25.7%)
	PRIMARY AND MIDDLE	80	28	108(41.53%)
	SECONDARY AND ABOVE	67	18	85(32.69%)
	TOTAL	190	70	260
SOCIO ECONOMIC STATUS	UPPER CLASS	16	1	17(6.5%)
	MIDDLE CLASS	78	8	86(33.07%)
	LOWER CLASS	96	61	157(60.3%)
	TOTAL	190	70	260
HISTORY OF ALCOHOL/ TOBACCO USE	YES	132	22	154(59.2%)
	NO	58	48	106(40.7%)
	TOTAL	190	70	260
HISTORY OF TB IN FAMILY	YES	24	15	39(15%)
	NO	166	55	221(85%)
	TOTAL	190	70	260

Sample Characteristics ; The age of the respondents ranged from 15 to 60 years, among them73% were males and 26.9% were females and most of them (66.5%)belonged to rural area. Most of them (25.7%) were illiterate. 60.3% respondents were from lower socio economic class. 59.2% patients were taking either tobacco or alcohol and 15% patients had history of TB in their family.

Majority of respondents had average level of knowledge (53.07%), followed by poor knowledge (31.93%) and good/ correct knowledge

TABLE 2:Knowledge Of TB Patients About TB Disease, Attitude Of TB Patients / Towards TB Patients And Related Practice

ASSESMENT OF KAP		MALE	FEMALE	TOTAL	P-VALUE	(χ^2 test-Value)
KNOWLEDGE						
Knowledge about TB, PTB and Extra PTB, its spread, treatment, where to get treatment from, duration of treatment, side effects of drugs, relapse/ failure of treatment and other related things to TB.	GOOD	31(79.4%)	8(20.6%)	39 (15%)	**0.0678** at +/- 2 SD	**5.3802**
	AVERAGE	106(76.8%)	32(23.2%)	138 (53. 1%)		
	POOR	53(63.9%)	30(36.1%)	83 (31.9%)		
	TOTAL	190(73.1%)	70(26.9%)	260		
ATTITUDE						
How you see TB as a disease & TB patients as a person, your behavior towards TB patients (how will/would you like to behave with them) , TB treatment and related things.	POSITIVE/ AGREE	149(73.03%)	55(27%)	204(78.5%)	**0.993** at +/- 2 SD	**0.014**
	NEGATIVE/ DISAGREE	28(73.7%)	10(26.3%)	38 (14.6%)		
	INDIFFERENT/ UNDECIDED/ HAVING NO KNOWLEDGE	13(72.2%)	5(27.8%)	18 (6.9%)		
	TOTAL	190	70	260		
PRACTICE						
How do you deal with TB disease, TB patients in family/ friends, how do you take/ took/ would like to take treatment if you have/had/ever get the disease.	YES/ GOOD/ POSITIVE	153(72.9%)	57(27.1%)	210 (80.7%)	**0.98** at +/- 2 SD	**0.0284**
	NO/ BAD/ NEGATIVE	23(74.2%)	8(25.8%)	31 (11.9%)		
	INDIFFERENT/ UNDECIDED/ HAVING NO KNOWLEDGE	14(73.7%)	5(26.3%)	19 (7.3%)		
	TOTAL	190	70	260		

was of (15%) among all. While Majority of respondents had good/ positive attitude (78.5%), negetive attitude (14.6%) and indifferent (6.92%). And 80.7% of all those were included in study were following good practice, while 11.9% were doing bad or unhealthy practice while 7.3% were indifferent due to their attitude toward disease or may be because of their lack of knowledge. . Insignificant difference was found between males and females on the basis of knowledge, their attitude and practice.

TABLE 3; Relationship Of Patients' Knowledge And Attitude With Tb Treatment And Practice (Treatment Acceptance)

Variables	Attitude		Practice	
	r	R^2	r	R^2
Knowledge	0.34	0.12	0.35	0.12
Attitude	-	-	0.96	0.93

A positive but weak correlation was found between knowledge and attitude [r = PEARSON'S CORRELATION COEFFICIENT = 0.34, R^2 COEEFICIENT OF DETERMINATION =0.12], and between knowledge and practice [r = 0.35, R^2 =0.12]. While a strong correlation was found between attitude and practice [r= 0.96, R^2 =0.93].

DISCUSSION

The age of the respondents ranged from 15 to 60 years, among them 73% were males and 26.9% were females and most of them (66.5%) belonged to rural area. Most of them (25.7%) were illiterate. 60.3% respondents were from lower socio economic class. 59.2% patients were taking either tobacco or alcohol and 15% patients had history of TB in their family. Majority of respondents had average level of knowledge (53.07%), followed by poor knowledge (31.93%) and good knowledge was of (15%) among all. While Majority of respondents had good/ positive attitude (78.5%), negetive attitude (14.6%) and indifferent (6.92%). And 80.7% of all those were included in study were following good practice, while 11.9% were doing bad or unhealthy practice while 7.3% were indifferent due to their attitude toward disease or may be because of their lack of knowledge. Insignificant difference in knowledge was found between males and females.

These data are higher than study of Mahendra et al at Geetanjali Medical College [10], Udaipur,Raj, which showed that more than 65% of respondents found to have correct knowledge regarding TB, its spread, diagnosis, treatment and other associated things which may affect the community & outcomes of RNTCP, as our study inferred that 68 % of total respondents/ patients were having correct (good and average) knowledge about TB .

Data are lower than study of Daniel Tolossa et al[11] in Ethiopia**,** in which 80% have awareness that TB can be transmitted from a patient to another person and 79.3% know that transmission of TB can be preventable. Persistence cough (72.4%) was the most commonly stated symptom of TB and modern drugs used in health institutions (68.1%) was the preferred choice of treatment. Two hundred and ninety one respondents (71.0%) said that they would seek treatment at health facility if they realized that they had symptoms related to TB. Two hundred and twenty seven respondents (55.4%) considered TB as a very serious disease and 284 (69.3%) would experience fear if they themselves had Tb.

Data were comparable to study of Mweemba P et al[12] in which half of the respondents (49%) had average knowledge of TB treatment. Majority of the respondents (89.4%) had positive attitude towards TB treatment rating high in all the attitude subscales 74 % in commitment, 84.6% in challenge and 55.8% in control. Most of the respondents' (80.8%) reported complying with TB treatment regimens.

A positive but weak correlation was found between knowledge and attitude [r(PEARSON COEFFICIENT) = 0.34, R^2 (COEEFICIENT OF DETERMINATION) =0.12], and between knowledge and practice [r(= 0.34, R^2 =0.12]. While a strong correlation was found between knowledge and practice [r= 0.96, R^2 =0.93].

Data were comparable to study of Mweemba P et al[12] in which there was a positive relationship between compliance and attitude, indicating that as the level of attitude increases, compliance level also increases (r = 0.59). The results further showed that there was positive but weak correlation between knowledge and attitude (r = 0.25). However, there was no relationship between knowledge and compliance (r = 0.12, p = 0.12) indicating that knowledge did not have an influence on compliance

Conclusion and recommendations; in this study, majority of the patients had an average level of knowledge regarding TB. Most of the patients possessed good attitude and had been following good practice, may be the reason of good case detection and treatment success rate of DOTS and further hope for success of RNTCP's STOP TB STRATEGY. There is no significant difference between male and females on the basis of knowledge, their attitude and practice. The study revealed a very important aspect that the knowledge is not a direct determinant of practice, but the attitude has a lot of influence on patients in taking proper treatment. Therefore, it is vital to find out ways of improving attitude along with enhancing awareness/ knowledge among mass to stop TB as a global health issue.

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