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Illness Cognition and Adherence for the Treatment Among Tuberculosis Patients Registered at Selected Dot Centre of Bhopal

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ABSTRACT

Tuberculosis is a leading killer diseases worldwide .In 2017 TB was become 10th death causing disease in the worldwide.Illness cognition are the perception or beliefs that patients have about their illnesses and medical conditions. Illness cognition are   an important predictor of how patients will behave during their illness experience and are directly associated with a adherence for the treatment.The present study aims at Illness cognition and adherence for the treatment among tuberculosis patients registered at selected DOT's centre of Bhopal.A quantitative descriptive study design was used. Smear positive TB patients registered in 2017 (n=50) selected as the study population. The Illness Cognition were measured by using Illness Cognition Questionnaire (ICQ).The questionnaire consisted total 18 items under three sub heading as Helplessness, Perceived Benefit, Acceptance. Adherence for the Dots therapy assessed by using Morisky Green Levin Scale-4. the analysis of the Illness Cognition questionnaire reveal that the 11(22%) feel helplessness, 29(58%) had acceptance for the disease and only that21(42%) had perceived benefit of the disease. Regarding the adherence of the DOTs Therapy 13 (26%) patients having high adherence,22(44%) had Medium Adherence and15(30%) Low Adherence for the treatment **.**The illness cognition of the TB patients might influence their adherence to treatment. The poor quality of life of the TB patients in the different areas of quality of life such as daily activities and work, require for programmers to enhance TB information, knowledge and counseling.

KEYWORDS: Adherence, Tuberculosis patients, Illness Cognition, DOTS therapy,

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INTRODUCTION AND BACKGROUND

Illness cognitions can be described as a patient's perception, interpretation, and understanding of the disease and its treatment[1].

A person's beliefs about their illness may contribute to recovery and prognosis. Some degree of acceptance of illness and its impact is necessary to integrate the presence of a chronic disorder into one's lifestyle and adhere to necessary components of illness management; however, some individuals can become 'stuck' and have difficulty adjusting out of the sick role[2].

Today tuberculosis still kills millions of people every year. It is the leading single infectious killer disease of young and adults in the world.In many countries, tuberculosis have become so common it seems fact of life. Almost everyone in Asia and Africa knows someone who has been sick with, or died from, TB[3].

To make matters worse, TB is still treated incorrectly in many parts of the world, wasting money and resources, and leaving patients uncured and the pool of infectious sources undiminished. Now potentially incurable drug –resistant TB bacteria have begun to appear as a result. The world health organization has received frightening reports of these bacteria from South Africa, India, Britain, Thailand, Pakistan, and the UnitedSstates[3].

Illness cognition are increasingly being shown to be related to important outcomes in a number of illnesses[4].

Individuals diagnosed with an illness develop cognitive models to make sense of their ailment. Thiscognition is important in guiding coping strategies and illness-specific behaviors. Patients may develop specific ideas about their disease[5].

Many studies have shown that when patients have negative illness cognition about their illness (e.g. a large number of symptoms associated with the condition, more severe consequences, and longer timeline beliefs) these perceptions are associated with less adherence to the treatment and a slower recovery[6].The illness cognition of the TB patients might influence their adherence to treatment. The poor quality of life of the TB patients in the different areas of quality of life such as daily activities and work, needs forprograms to strengthen TB information, education and counseling.

Illness cognition is an important aspect in managing patients with chronic diseaseslike tuberculosis. Certain socio-demographic characteristics such as family history and psychological factors, namely anxiety, need to be considered when managing these patients. In addition to pharmacological intervention, health care providers should give more emphasis on improving illness cognition in order to achieve a better outcome of an illness.[7]

The objectives of this study were to adapt the ICQ, which was to assess its psychometric properties, and to determine whether scores are associated with patient adherence. It includes both positive and negative cognitions related to disease, namely, helplessness, acceptance, and perceived benefits

MATERIALS AND METHODS

This pilot study was conducted at selected DOTS centre of Bhopal city. Simple random sampling technique was used to select theDOTs centre out of total 33 DOTs centre of Bhopal city. A descriptive cross-sectional study design was used to determine the illness cognition and adherence regarding DOTs therapy among tuberculosis patients in Bhopal. New smear positive TB patients registered in the TB microscopic units at the dots centre in the period from January to March 2017 were the study population. The sample size was calculated for the study was 50 were select through the complete enumeration sampling technique for the pilot study.

Institutional Research Advisory Committee guideline and Institutional Ethics Committee guidelines were followed throughout the study .Written consent was obtained from the respondents. The purpose of study, Objectives and process of the research were explained to the participantsand informed them they can withdraw from the study at any time without any harm or other consequences on their treatment. Confidentiality of the gathereddata was followed before, during and after completion of the study.

The Illness cognition Questionnaire (IPQ)[8], which has been a standardized tool to measure illness cognition were used .The ICQ was used to measure helplessness, acceptance and perceived benefits. This is a 18-item questionnaire that contains three 6-item scales related to the factors helplessness, acceptance and perceived benefits, each with a scoring range of 6-24 .Each item is answered on a 4-point Likert scale to the extent to which one agrees with the item (1 = *not at all*, 2 = *somewhat*, 3 = *to a large extent*, 4 = *completely*).

For assessing the adherence for the DOTS therapy Morisky Green Levine 4 item scale was used [9].

The analysis of the quantitative data was done using Statistical Package for Social Sciences (SPSS). Socio demographic characteristics were analyzed using frequency and percentage distribution. Item wise analysis done for the IllnessCognition Questionnaire. Chi square test is used to assess the association between Illness cognition and Adherence for the treatment.

RESULT AND DISCUSSION

Table 1depicted that majority respondent were male instead of women and 16(32%) were belongsto the age group of 26-33 years.Regarding the educations status indicated that 18(36%) were had primary school certificate pass and illiterate, further most of the participant had less than 1600 income per month and belongs to Hindu religion .Majority respondent residing in rural area instead of urban area. Occupation wise majority were clerical, shop owner and farmer .majority participant were residing in joint family and their source of information were friends and colleagues.Most of the participants 30(60%) didn't have history of tuberculosis in their family.

Table 1. Distribution of socio demographic characters of tuberculosis patients (n=50)

Characteristics	Category	Frequency(n=50)	Percentage
Gender	Male	30	60%
	Female	20	40%
	18-25 Year	10	20%
	26-33 Year	16	32%
Age	34-41 Year	8	16%
	42-49 Year	8	16%
	50-65 Year	8	16%
	Graduates or Post Graduate	2	4%
Educational Status	Middle School Certificate	12	24%
	Primary School Certificate	18	36%
	Illiterate	18	36%
	Rs16020 – 32049	1	2%
	Rs12020 – 16019	3	6%
Family Income	Rs8010 - 12019	4	8%
	Rs4810 - 8009	12	24%
	Rs1601 - 4809	15	30%
	Less than Rs1600	15	30%
Religion	Hindu	44	88%
	Muslim	6	12%

Table 1. Distribution of socio demographic characters of tuberculosis patients (n=50)

Residential Area	Urban	10	20%
	Urban slums	7	14%
	Rural	33	66%
Occupation	Profession	2	4%
	Semi Profession	2	4%
	Clerical, Shop Owner, Farmer	13	26%
	Skilled Worker	3	6%
	Semi- Skilled Worker	4	8%
	Unskilled Worker	11	22%
	Housewife / Unemployed	15	30%
Marital Status	Unmarried	7	14%
	Married	40	80%
	Divorced/separated	1	2%
	Widow/ widower	2	4%
Type of Family	Nuclear	11	20%
	Joint	34	68%
	Extended	5	10%
Source of Information	Radio & T.V	10	20%
	Newspapers, Magazines	3	6%
	Health personnel	4	8%
	Friends & colleagues	33	66%
History of T.B in Family	Yes	14	28%
	No	30	60%
	Don't Know	6	12%

Table2. Regarding the Illness Cognition Questionnaire indicated that 12(24%) had felt helplessness, 30(60%) had acceptance for the disease, and 22(44%) had felt perceived benefits for the disease. 38(79%) didn't felt helplessness, 20(40%) didn'thad acceptance for the disease and28(56%) didn't felt perceived benefits for the disease.

Table 2. Distribution of Illness Cognition questionnaire Item

ILLNESS COGNITION : Helplessness(n=50)		
Response	Frequency	Percentage
YES	11	22%
NO	39	78%
ILLNESS COGNITION : Acceptance		
YES	29	58
NO	21	42
ILLNESS COGNITION : Perceived Benefits		
YES	21	42
NO	29	58
TOTAL	50	100%

Table 3.Regarding the association between Illness cognition and Adherence for DOT'S Therapy indicated that the patients having acceptance and perceived benefits for the disease are highly significant(0.005*,0.009*) with the adherence for the treatment .

Table 3.Association between Illness Cognition and Adherence for the treatment

		ADHERENCE(n=50)						Chi sq	P value
		High adherence		Medium adherence		Low adherence			
		N	%	N	%	N	%		
ILLNESS COGNITION : Helplessness	No	12	32.4%	17	43.2%	10	24.3%		
	Yes	1	9.0%	5	45.5%	5	45.5%	3.013	0.222
	Total	13	26.0%	22	44.0%	15	30.0%		
ILLNESS COGNITION: Acceptance	No	10	47.6%	6	28.5%	5	23.8%		
	Yes	3	10.3%	16	55.2%	10	34.5%	10.474	0.005*
	Total	13	26.0%	22	44.0%	15	30.0%		
ILLNESS COGNITION : Perceived benefits	No	12	41.3%	10	34.4%	7	24.1%		
	Yes	1	4.8%	12	57.1%	8	38.1%	9.419	0.009*
	Total	13	26.0%	22	44.0%	15	30.0%		

* Significant at the P= (<0.05)

DISCUSSION

Illness cognition are the organized cognitive responses or beliefs that patients have about their illness. These perceptions have been found to be important determinants of behavior and have been associated with a number of important outcomes, such as treatment adherence and functional recovery and quality of life.

Our present study provides evidence for the role of illness cognitions in treatment adherence for the DOTS therapy among tuberculosis patient If the patient have feeling of helplessness regarding the disease patient will have lower adherence for disease.Whereas if patient have acceptance and perceived benefits for the disease, they have better adhere for the treatment .

Study findings supported by Bam K (2014)[10] stated that perceptions of TB and knowledge related to the disease affect the health seeking behaviour of patient .

Some of the study findings also indicated that TB patients scored low in social and physical activities dimensions of health related quality, which reflects their performance at work and generally in life and could lead with other factors to stigma and poor adherence to treatment[11].

CONCLUSION

In conclusion, our study findings suggested that illness cognition like acceptance ,helplessness and perceived benefits are associated with the patients treatment adherence .For the better adherence to the Dots therapy patient should have better acceptance regarding their disease. As tuberculosis is a curable disease with the help of proper explanation regarding disease to the patientand their family members , we can get better adherence for the treatment.Furthermore,

considering the socio- demographic characteristics in tailoring and delivering appropriate intervention for each group might change illness perceptions into more positive, which again can have impact on patients' seeking and maintaining their treatment. These acts could enhance effective TB control among Bhopal population.

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