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DISTRIBUTION OF CLINICAL VARIABLES RESPONSIBLE FOR HOSPITALIZATION AMONG PULMONARY TB PATIENTS: A RETROSPECTIVE CROSS SECTIONAL STUDY

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ABSTRACT

Present study was carried out to assess the distribution of clinical variables responsible for hospitalization among inpatients and outpatients of Pulmonary TB. Non experimental quantitative research approach and retrospective cross sectional design was used and 200 patients were selected by purposive sampling technique (100 from inpatient department and 100 from outpatients department). Tools used for data collection included performa for socio-demographic variables and clinical variables assessment questionnaire. Statistical measure used was Chi square. The results showed that majority of the hospitalized patients were non literate, from Hindu religion, married, having family income between Rs.3000-8000, had their own house, vegetarian and having previous history of hospitalization. Clinical Variables for hospitalization were cough hygiene, compliance to treatment, lung involvement and use of any other drug therapy than DOTS.The study concluded that by identifying the clinical variables, hospitalization and further consequences can be reduced. Nurses can help to reduce hospitalization by educating the patients about variables of hospitalization.

Key words: Clinical variables, Hospitalization, Pulmonary TB patients.

INTRODUCTION

TB is a disease that occurs in every part of the world. Countries with low and middle income, have above 95% of deaths due to TB and among the women aged between 15-44 years, it is the top five cause of death. TB is one of the leading cause of death of those patients who are having HIV.20% of the global burden of TB is in account of India. TB is developed in 2.2 Million people and 3.5 lakh die every year [1]. Hospitalization in some patients is advisable not only for the confirmation of diagnosis but also if it is diagnosed, the patient can get the treatment under the supervision of a health professional [2]. In one study, it was found that 20% of the patients were using safe sputum disposal technique and 21.5% of the patients were not taking any precaution to prevent the spread of disease.46.7% patients were covering their mouth while coughing [3]. Hospitalization period should be reduced, it should only to the time until it is needed [4]. Another study findings shows that among all the hospital admissions of the patients, 86% were in males and those who were in productive age [5].

There is no significant difference found in treatment outcome among outpatients and inpatients but cost and other problems faced are higher among inpatients. These problems can be high cost, role disturbance in family, loss of wages and other costs related to laboratory tests [6]. Although there are many studies done to assess the knowledge, attitude and compliance related to tuberculosis but there were few

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studies available which shows the various factors related

METHODOLOGY

A quantitative approach with Retrospective cross sectional design was adapted. The study was conducted in TB and Chest ward and O.P.D of MMIMS& R Hospital, Mullana and TB and ChestHospital, Ambala City. With the help of purposive sampling two hundred Pulmonary TB patients were chosen and interviewed. Consent was taken from patients and ethical approval was taken from the institutional ethical committee.Two tools were used to collect the data. Semi structured interview was done to collect data. Demographic information was collected using demographic sheet and clinical variables assessment questionnaire was used to assess the variables. Clinical Variables assessment questionnaire includes cough hygiene, compliance to treatment, lung involvement and use of any other drug therapy than DOTS. Techniques

to hospitalization.

used were interview technique, previous records of the patients and biophysiological measurement. Tool was validated and reliability was established using crohnbach alpha which was in acceptable range. Maximum score in the tool was 13 and minimum score was zero. Maximum score in the tool indicate unhealthy practices of the patients and minimum score indicate healthy practices of the patient.

RESULTS

The data was analyzed using descriptive and inferential statistics. Frequency and percentage distribution was used to calculate the demographic variables. Chi square was used to compare inpatients and outpatients in terms of demographic variables and clinicalvariables of hospitalization.

Table 1. Chi square value showing comparison of inpatients and outpatients in terms of demographic variables, N=200

Demographic variables	Inpatients n=100	Outpatients n=100	df	X^2	P value
	f(%)	f(%)			
1. Age					
1.1. 18-40 years	33	71			
1.2. 41-60 years	34	17	2	29.35	0.001*
1.3. Above 60 years	33	12			
2. Gender					
2.1. Male	72	49	1	11.06	0.001*
2.2. Female	28	51			
3. Religion					
3.1. Hindu	56	68			
3.2. Muslim	23	4	2	15.53	0.001*
3.3. Sikh	21	28			
4. Marital status					
4.1. Single	17	12			
4.2. Married	74	85	2	4.62	0.09 NS
4.3. Widow	9	3			
5. Educational status:					
5.1. Non literate	56	27			
5.2. Primary	11	20			
5.3. Secondary	23	28	4	19.99	0.001*
5.4. Senior secondary	7	20			
5.5. Graduate	3	5			
6. Occupation of the patient:					
6.1. Farmer	13	4			
6.2. Home maker	26	36	3	6.39	0.09 NS
6.3. Self employed	35	34			
6.4. Unemployed	26	26			
7. Type of family:					
7.1. Nuclear	52	71	1	7.62	0.006*
7.2. Joint	48	29			

8. Number of family members					
8.1. ≤5	46	66	1	8.11	0.004*
8.2. >5	54	34			
9. Income per month					
9.1. 3,000-8,000	32	32			
9.2. 8001-13,000	31	29			
9.3. 13001-18,000	8	44	4	2.37	0.66 NS
9.4. 18001-23,000	25	20			
9.5. >23,000	4	5			
10. Area of residence					
10.1. Urban	48	66	1	6.61	0.01*
10.2. Rural	52	34			
11. Type of residence					
11.1. Own house	91	81	1	4.15	0.04*
11.2. Rented	9	19			
12. Number of rooms:					
12.1. 1-2	30	38			
12.2. 3-4	65	59	2	1.73	0.42 NS
12.3. More than 4	5	3			
13. Food habits					
13.1. Vegetarian	57	77			
13.2. Non vegetarian	32	16	2	9.2	0.01*
13.3. Eggetarian	11	7			
14. Duration of TB:					
14.1. Upto one year	75	77			
14.2. 1-4 years	12	22	2	13.25	0.001*
14.3. More than 4 year	13	1			
15. Taking DOTS from:					
15.1. Private practitioner	32	15			
15.2. ASHA	27	17	2	15.11	0.001*
15.3. DOTS centre	41	68			
16. Distance from residence to health center(in km):					
16.1. Upto one	83	80			0.64 NS
16.2. 1-5	13	13	2	0.87	
16.3. 6-10	0	0			
16.4. More than 10	4	7			
17. Side effects experienced related to DOTS					
17.1. Yes	42	53	1	2.42	0.11 NS
17.2. No	58	47			
18. Co morbid conditions conditions:					
18.1. Yes	37	39			
18.2. No	63	61	1	0.08	0.77 NS
If yes,					
• Respiratory	10	14			
• Cardiovascular	12	10	3	4.67	0.96 NS
• Genitourinary	11	13			
• Immunological	4	2			
19. Previous hospitalization					
19.1. Yes	51	13	1	33.18	0.001*
19.2. No	49	87			

*significant (p<0.05)

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[NS-] not significant (p>0.05)

Table 2.Chi value showing comparison of inpatients and outpatients group in terms of predictors of hospitalization, N=200

Predictor		Sub –Predictors	Inpatients n=100 f(%)	Outpatients n=100 f(%)	df	X^2	P value
Clinical predictor	Cough hygiene	**Cover mouth when coughing** • Yes • No	34 66	41 59	1	1.04	0.3 [NS]
		Spit on floor • No • Yes	35 65	28 72	1	1.13	0.28 [NS]
		Discard sputum in open place • No • Yes	22 78	38 62	1	6.09	0.01*
		Spit in container with ash • Yes • No	51 49	44 56	1	0.98	0.32 [NS]
		Cover mouth when others are coughing • Yes • No	25 75	43 57	1	7.21	0.007**
		Avoid crowdy areas • Yes • No	46 54	49 51	1	0.18	0.67 [NS]
	Lung involvement	• Unilateral lung involvement • Bilateral lung involvement	40 60	57 43	1	5.78	0.01*
	Any drug therapy	**Any drug therapy other than DOTS** • No • Yes	63 37	61 39	1	7.68	0.006**
	Previous history of TB Compliance	**Previous history of TB:** • No • Yes	75 25	78 22	1	0.25	0.61 [NS]
		Compliance to previous treatment: • Yes • No	24 1	17 5	1	2.4	0.12 [NS]
						3.2	0.79 [NS]
		Compliance to present treatment: • Yes • No	97 3	92 8	1		
	Family history of TB	**Family history of TB** • No • Yes	69 31	70 30	1	0.02	0.87 [NS]

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	Peer history of TB	Peer history of TB				0.82	0.36[NS]
		• No	79	84			
		• Yes	21	16	1		

*significant (p<0.05)
[NS-] not significant (p>0.05)
$X^2(1)= 3.84$
$X^2(2)=5.99$
$X^2(3)=7.82$
$X^2(4)=9.49$

DISCUSSION

A study shows that the age of TB patients varied between 18-84 years [7]. Present study results were consistent with another studies which found that majority of the hospitalized patients were males i.e. 69% [8] and 58.4% [9]. A study [10] reported that 20% of the patients were using safe sputum disposal technique and 46.7% were covering their mouth while coughing and Another study [11] founds that 61% of the patients were covering their mouth while coughing, which was inconsistent with the results of present study. A study reported that 93% were compliant to treatment.

CONCLUSION

The study concluded that by the clinical variables should be known to every health professional which will further help them to educate patients regarding the consequences of these variables.

RECOMMENDATIONS

A similar multi centered study can be conducted in different health centres to assess the clinical variables in different settings. An experimental study can be done to assess the effectiveness of health teaching program on knowledge and attitude regarding TB. Similar study can be conducted on large sample to generalize the findings. Case control study using matched control can be done to identify variables.

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with theethical standards of the institutional research committee and with the 1964Helsinki declaration and its later amendments or comparable ethicalstandards. This article does not contain any studies with animals performed by any of the authors.

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Nil

CONFLICT OF INTEREST

Nil

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