RESEARCH ARTICLE

KNOWLEDGE ON DIRECTLY OBSERVED TREATMENT SHORT COURSE (DOTS) AMONG TUBERCULOSIS PATIENTS OF SELECTED DOTS CENTRES OF LUDHIANA, PUNJAB.

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Manuscript Info	*Abstract*
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WHO recommended framework for effective tuberculosis control strategy known by the brand name DOTS. The present study aimed to assess the knowledge about Tuberculosis and DOTS among tuberculosis patients. The Quantitative research approach and non-experimental exploratory research design was used and study carried out in selected DOTS centers. Total 110 tuberculosis patients taking DOTS were chosen by Purposive sampling technique. Self structured Interview schedule questionnaire used to evaluate knowledge on DOTS. Conclusion drawn were based on findings that majority 66% subjects having average knowledge, 7% having good & 26% having below average knowledge, On the other hand with context to relationship of knowledge with selected variables, Qualification depict that calculated value was 3.37 which is more than tabled value 2.68, Also family income depicts that calculated value was 4.53 which is more than tabled value 3.37. This difference was found to have statistically significant at p<0.05 and p<0.001 respectively. Conclusion drawn were based on findings of the study that majority of patients having average knowledge, in context to relationship of knowledge with selected variables, qualification/education and family income had significant impact on knowledge among TB patients. Pamphlet was prepared regarding knowledge on TB and DOTS to increase the level of knowledge.

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Introduction:-
Among all infectious diseases, Tuberculosis is one of the six killer disease caused by Mycobacterium tuberculosis. The disease primarily affects lungs and causes pulmonary tuberculosis. It can also affect intestine, meninges, bones and joints, lymph glands, skin and other tissues of the body. It is estimated that about one third of the current global population is infected asymptomatically with tuberculosis, of which 5-10 per cent will develop clinical disease during their life time. (Park K, 2013)[1].

India is the second-most populous country in the world; India has more new TB cases annually than any other country. In 2009, out of the estimated global annual incidence of 9.4 million TB cases, 2 million were estimated to have occurred in India, thus contributing to a fifth of the global burden of TB. It is estimated that about 40% of Indian population is infected with TB bacillus. The incidence of TB in India is estimated based on findings of the nationwide annual risk of tuberculosis infection study conducted in 2000-2003. The national annual risk of

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tuberculosis infection being 1.5%, the incidence of new smear positive TB cases in the country is estimated as 75 new smear positive cases per 100,000 populations. The prevalence of TB has been estimated at 3.8 million bacillary cases for the year 2000. However the recent estimate by WHO gives a prevalence of 3 million (Revised national tuberculosis control programme annual status report, 2011)[2].

Objectives:-
1. To assess the knowledge about Tuberculosis and DOTS among tuberculosis patients.
2. To determine the relationship of knowledge with variables such as age, Gender, Qualification, Religion, Occupation, Marital Status, Income, Source of information
3. To prepare pamphlet on Tuberculosis and DOTS.

Need of the study:-
Tuberculosis is the second most important cause of adult death worldwide due to infectious disease, after HIV/AIDS. Approximately one in every 10 of these people will develop TB disease, which typically consists of a chronic cough, severe weight loss, night sweats and progressive, irreversible lung damage (Health affairs, 2009)**[3]**. In the RNTCP (Revised National TB control Programme) status report, 2001 of Govt. of India, it was observed that 84% of tuberculosis patients were cured by DOTS compared to less than 40% cured in the Non-DOTS group (Ministry of Health and Family Welfare, 2001)[4].

In different parts of community area people have misconceptions and limited knowledge about the disease and its treatment. So there is desperate need to educate about DOTS programme among the Tuberculosis patients, Experience with patients in community area, DOTS centers, observation and interview with patients, patient's relatives and health team members related to DOTS, motivated the researcher to assess the knowledge on Directly observed treatment short course (DOTS). The investigator also felt that it is very essential to educate the TB patients regarding treatment of Tuberculosis. This will improve the patient's knowledge, compliance to DOTS, quality of life and behavior. All these observations, experience, curiosity and interest in the field prompted the researcher to undertake this study.

Methodology:-
A Non experimental exploratory research design and Quantitative research approach was considered appropriate for the study. Target Population consisted of the pulmonary and Extra pulmonary tuberculosis patients. Purposive sampling technique was used to select a sample of 110 tuberculosis patients. The purpose and objective were discussed with the District tuberculosis officer, civil hospital, Ludhiana, Head of Chest and T.B department, Christian Medical College & Hospital, Ludhiana and written permission was obtained to collect the data. Investigator selected main four government register DOTS centers. Structured interview schedule was used as the method of data collection. Content validity of the tool was confirmed by expert opinion regarding the relevance of items. Reliability of the structured interview schedule and structured checklist was computed by applying Split-Half method and calculated by Karl Pearson's Co-efficient correlation and Spearman Brown Prophecy formula and results shows tool was reliable. An analysis of data was done on the basis of objectives of the study. Data was analyzed by using descriptive and inferential statistics.

Description of the tools:-
The tool was divided into 2 parts:
1. Part I: Socio demographic characteristics
2. Part II: This part of tool consists of structured interview schedule to assess the knowledge. The total numbers of questions were 20 which categorized into two categories. Each statement had four options. Correct response carried 1 score and wrong answer carried 0 score.

Major Findings:-
Finding related to Socio demographic characteristics :-
Majority of the tuberculosis patients (33.63%) were in the age group of 16-25 years, 60.90% males, 45.45% educated up to primary-middle, 73.63% were Hindu, 23.63% were labourer, 70% married and 60% were having family income per month Rs.5001-10,000 and 88.18% had source of information television.

Finding related to Knowledge of Tuberculosis and DOTS :-
Majority of tuberculosis patients (60.90%) had Average knowledge regarding Tuberculosis and DOTS.

Finding related to Knowledge of Tuberculosis and DOTS :-
Highest mean knowledge score of tuberculosis patients were in age group <16 years, among females, had Qualification/Education graduate and above, belong to Hindu religion, Professional and were Unmarried with the income group Rs.5001-10000, had television as source of information.

Table no.1:-Frequency and Percentage distribution of Tuberculosis patients according to level of knowledge regarding Tuberculosis & DOTS.

N =110

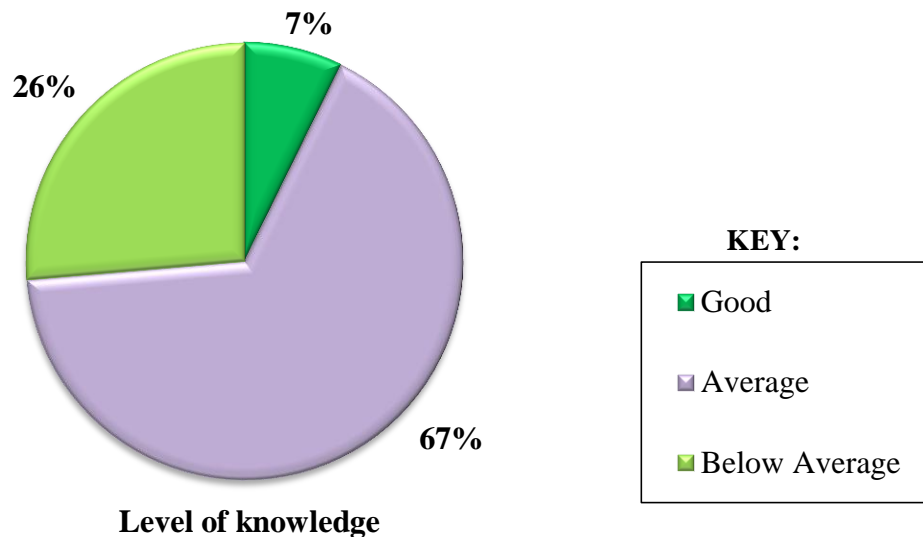| Level of Knowledge	Knowledge score of Patients		
	Score	f	%
1. Good	>15	8	7.27
2. Average	14-15	73	66.3
3. Below average	<14	29	26.36

Maximum Score = 20
Minimum Score = 0

Table 1 & Graph 1 depict that 66.36% tuberculosis patients had average knowledge followed by 26.36% tuberculosis patients had below average knowledge & further followed by 7.27% had good knowledge regarding tuberculosis & DOTS.

Hence it can be concluded that majority of patients had average knowledge regarding tuberculosis & DOTS.

Graph 1:-Percentage Distribution of Tuberculosis Patients According to Level of knowledge regarding Tuberculosis & DOTS.

Level of knowledge

Table 2:-Analysis of Variance of Knowledge Score of Tuberculosis patients according to Qualification/Education

N=110

Source of variation	df	Knowledge Score		F
		Sum of square	Mean Sum of square	
Between group	3	15.18	5.06	
				3.37*
Within group	106	159.08	1.50	
Total	109	174.26		

Maximum Score = 20   *Significant at p <0.05 level
Minimum Score = 0

Table 2 depict that the calculated F value for knowledge scores of TB patients was 3.37 and the tabled F value for 3/106 degree of freedom was 2.68 at 0.05 level of significance. The calculated F value was more than tabled value. The difference was found statistically significant therefore; further analysis was done using t-test for finding the significant differences between and among the groups.

Hence it can be concluded that qualification/Education had significant impact on knowledge of tuberculosis patients.

Table no.3:- Mean, Standard Deviation and Z value of Knowledge Score of Tuberculosis patients according to Family Income in rupees (per month)

N=110

Family Income In rupees (Per month)	n	Knowledge Score		df	'Z'
		Mean	SD		
a. ≤5000	44	13.48	1.28	108	4.53*
b. 5001-10000	66	14.50	1.07		

Maximum Score = 20   *Significant at p<0.001 level
Minimum Score = 0

Table 3 Indicate Mean Knowledge Score of Tuberculosis patients according to Income in rupees (per month). The mean knowledge score of patients was highest (14.50) among the income group Rs.5001-10000, followed by the income group Rs. ≤5000 (13.48). 'Z' value revealed that calculated value for knowledge score of TB patients was 4.53 which is more than tabled value 3.37. This difference was found to have statistically significant p<0.001.
Thus, it was inferred that family income had significant impact on knowledge of TB patients.

Conclusion:-
Finding shows that majority of patients had average knowledge. According to relationship of knowledge with selected variables Qualification/Educational status & family income had significant impact on knowledge among TB patients. Pamphlet was prepared regarding knowledge on tuberculosis and DOTS to increase the level of knowledge of tuberculosis patients.

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