Prevalence of Anaemia in Pulmonary Tuberculosis Patients

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Abstract

The study was done in 50 pulmonary tuberculosis patients. The study was conducted on tuberculosis control hospital in Raipur city. 50 subjects were included in this study. Body mass index and haemoglobin level were measured in Pulmonary Tuberculosis patients. We found that the 56% male and 64% female were severe malnourished. 20% male and 28% female were moderate malnourished. 8% Male and 8% female were mild malnourished. 16% male and 0% female were normal. Mean ± SD Hemoglobin level of male subjects were 8.3 ± 3.1 g / dl and mean \pm SD hemoglobin level of female subjects were 6.60 ± 1.07 g/ dl.

KEYWORDS:- (Pulmonary Tuberculosis, Mycobacterium, Hemoglobin, Anaemia)

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INTRODUCTION Pulmonary Tuberculosis is caused by bacteria Mycobacterium Tuberculosis. Tuberculosis (TB) is the world's second most common cause of death from infectious disease. Tuberculosis may produce abnormalities in the peripheral blood, including anaemia. Anaemia is a highly common hematologic complication among TB patients and is a strong risk factor for mortality¹. Anaemia in Tuberculosis Patients may largely be due to chronic inflammation. A recent study from India reported that malnutrition and anaemia were extremely prevalent among Pulmonary Tuberculosis patients.²

Excessive production of pro-inflammatory cytokines, such as IL-6, TNF- α and IFN- γ , contributes to anaemia through reduced production of erythropoietin, suppressed response of bone marrow to erythropoietin, and altered iron metabolism, which may in turn impair erythropoiesis.

OBJECTIVES:-

- To measure the body mass index of Pulmonary Tuberculosis patients.
- 1.

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- To measure the haemoglobin level of pulmonary Tuberculosis patients. To study the prevalence of anaemia in Pulmonary Tuberculosis Patients. 2.
- 3.

SAMPLE SELECTION

The samples were selected in purposive sampling method. 50 subjects were included in our study. 25 male and 25 female subjects were selected.

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METHODS

Physical examination was done including measurement of body mass index. Standard procedure was used to measurement of body weight and height. Weight was measured by standard weight machine and Height was measured in cm using a locally made anthropometer. Body mass index was calculated by given formula-³

Weight (kg)

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BMI =

Height (m^2)

Haemoglobin value was taken from clinical records when the subjects were hospitalized patients. It was analyzed in hospital laboratory by cyanomethemoglobin method as described by . Comparison of haemoglobin level on standard level given by WHO⁴.

RESULT AND DISCUSSION

Table -I

S.N.	Male	Female	Total	
1	25	25	50	

Table I -shows the total number of selected sample-

Table II -

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BMI	Range	Male		Female	
Classification		Number	Percentage	Number	Percentage
by WHO					
Severe	<16.00	14	56%	16	64%
Thinness					
Moderate	16.00-16.99	5	20%	7	28%
Thinness			4		
Mild Thinness	17.00-18.49	2	8%	2	8%
Normal	18.50-24.9	4	16%	0	0%
Total		25		25	

Table II- shows the Body Mass Index of selected subjects.

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Graph II: Male v/s Female BMI status.

Table- III

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Sex	Haemoglobin level mean ±	Standard level		
	SD SD	14 18 g /d1		
Male	8.3±3.1	12-16 g /dl		
Female	6.60 ± 1.07			

Table- III shows the Haemoglobin level of selected subjects

RESULT

Pulmonary Tuberculosis has been found to be associated with poor quality of life. Studies shows that a decline in the haemoglobin level of pulmonary Tuberculosis Patients. We found that the 56% male and 64% female were severe malnourished. 20% male and 28% female were moderate malnourished. 8% Male and 8% female were mild malnourished. 16% male and 0% female were normal. Mean ± SD Haemoglobin level of male subjects were 8.3 \pm 3.1 g / dl and mean \pm SD haemoglobin level of female subjects were 6.60 \pm 1.07 g/dl. Study shows mostly Pulmonary Tuberculosis patients were anaemic.

REFERENCES

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1. Ciglenecki I, Glynn JR, Mwinga A, Ngwira B, Zumla A, Fine PE, et al. Population

differences in death rates in HIV-positive patients with tuberculosis. Int. J Tuberculosis Lung Dis. 2007; 11(10):1121-8. [PubMed]

2. Weiss G, Goodnough LT. Anaemia of chronic disease. N Engl. J Med. 2005;

352(10):1011-23. [PubMed]

- 3. Kennedy N, Ramsay A, Uiso L, Gutmann J, Ngowi FI, Gillespie SH. Nutritional status and weight gain in patients with pulmonary tuberculosis in Tanzania. Trans R Soc Trop Med Hyg. 1996;90(2):162-6. [PubMed]
- 4. Lab Tests Online : Haemoglobin. According to WHO.