

## Effect of Dietary Counseling on the Weight of Pulmonary Tuberculosis Patients

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### Abstract

The study was conducted on pulmonary tuberculosis patients. We find out nutritional counseling is very effective to improvement of weigh in pulmonary tuberculosis patients. Our study we found after dietary counseling weight was significantly increased in pulmonary tuberculosis patients belonging to experimental group. So we can say good nutrition is very important to improvement of weight in underweight pulmonary tuberculosis patients.

**KEYWORDS:-** Pulmonary Tuberculosis, Dietary counseling, Body Mass Index.

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### INTRODUCTION

Pulmonary tuberculosis is caused by “Mycobacterium Tuberculosis”. One of the first sign of tuberculosis is unexplained weight loss. As the disease increases, symptoms may occur. Common symptoms include – Tiredness, Loss of weight, fever, Fatigue, Weight loss, Coughing up blood, Fever and night sweats, cough producing phlegm. Additional symptoms that may be associated with this disease –Wheezing, Sweating excessive, Chest pain and breathing difficulty ect.<sup>1</sup>Pulmonary Tuberculosis as of today has become a global problem. According to the World Health Organization more than ¼ of the World population has been affected by Pulmonary Tuberculosis. TB is a major cause of morbidity and mortality worldwide. Tuberculosis has been declared a global emergency by WHO.<sup>2</sup>

### REVIEW OF LITERATURE

A study was done by Anurag Bhargawaand et al was done on nutritional status of adult patients with pulmonary tuberculosis in rural central India and its association with mortality. It was found that the 80% of women and 67% of men had moderate to severe under-nutrition (BMI<17.0kg/m<sup>2</sup>). 52% of the patients (57% of men and 48% of women) had stunting indicating chronic under-nutrition. These finding suggest the need for nutritional support during treatment of pulmonary Tuberculosis.<sup>3</sup>

Johan R Boelaert et al. (2002) reported that protein energy malnutrition was present in mostly pulmonary tuberculosis patients. Protein energy malnutrition is high incidence of pulmonary tuberculosis.<sup>4</sup>

### OBJECTIVES

- 1) To assess the anthropometric measurement of selected subjects.
- 2) To measure effect of dietary counseling on the anthropometric of selected subjects.

## Materials and Methods

### SAMPLE

200 Pulmonary Tuberculosis Patients between the age group of 30 to 50 years were selected for the study. Stratified Random sampling was used for selection of samples.

### DESIGN

Pre and post experimental control design was used in this study.

### METHOD AND PROCEDURE

The samples were divided in to two groups. First group was an experimental group and second group was control group. 100 subjects were included in each group. Then Experimental group was suggested in high calorie and high protein diet. Dietary counseling was given in experimental group. High calorie and high protein dietary chart given was given to experimental group. Dietary counseling was not given in control group. Pre-treatment weight was measured by standard weighing machine. After three month of dietary counseling again weight was measured. Pre and post weight was measured and comparison of pre and post weight of selected subjects. Body mass index (BMI) was calculated with the BMI formula (weight in (kg) /height in m<sup>2</sup>).

## RESULT AND DISCUSSION

**Table No. 1**  
**Pre Post Mean Scores of Weight among Selected Pulmonary Tuberculosis Patients belonging to Experimental Group**

Variable	N	Experimental Group				Mean Difference	't'
		Pre Test		Post Test			
		Mean	S.D.	Mean	S.D.		
Weight	100	45.80	5.49	48.84	5.49	3.04	31.91**

\*\* Significant at .01 level

t(df=99) = 1.98 at .05 and 2.63 at .01 level

**Table No. 2**  
**Pre Post Mean Scores of Weight among Selected Pulmonary Tuberculosis Patients belonging to Control Group**

Variable	N	Control Group				Mean Difference	't'
		Pre Test		Post Test			
		Mean	S.D.	Mean	S.D.		
Weight	100	45.82	5.56	46.54	5.91	0.72	5.19**

\*\* Significant at .01 level

t(df=99) = 1.98 at .05 and 2.63 at .01 level

To compare pre and post test measures of weight among pulmonary tuberculosis patients belonging to experimental group, paired sample 't' test was used. The results are depicted in Table No. 1. A significant increase in post test measures on weight (M=48.84±5.49) occurred among subjects belonging to experimental group as compared to their pre-test

mean weight ( $M=45.80\pm 5.49$ ). The calculated 't' value was statistically significant at .01 level.

Similarly findings were obtained for control group. Table No.2 indicated a significant increase in post test measures on weight ( $M=46.54\pm 5.91$ ) occurred among subjects belonging to control group as compared to their pre-test mean weight ( $M=45.82\pm 5.56$ ). The calculated 't' value was statistically significant at .01 level.

To compare changes in pre-post test scores on weight measurement between experimental and control group, gain scores was calculated and compared between these two groups with the help of independent sample 't' test. The same is depicted in table no. 3.

**Table No. 3**

**Comparison of Gain Scores on BMI Measurements between Experimental and Control Group**

Groups	N	Gain Score on BMI		Mean Difference	't'
		Mean	S.D.		
Experimental Group	100	1.08	0.43	0.77	11.02**
Control Group	100	0.31	0.55		

\*\* Significant at .01 level

To compare changes in pre post test scores on BMI between experimental and control group. Mean gain score of experimental group was 1.08 and mean gain of control group was 0.31. A significantly gain score was increased in experimental group. The calculated 't' value = 11.02 is statistically significant at .01 level.

**Table No. 4**

**Shows ANCOVA Table for Post Means on Weight after Dietary Counselling Programme**

	df	SS	MSS	F	Sig.
Corrected Model	02	6437.350	3218.675	2269.189	.01
Intercept	01	5.860	5.860	4.132	.01
Pre-Weight	01	6172.850	6172.850	4351.904	.01
Groups	01	269.164	269.164	189.76	.01
Error	197	279.430	1.418		
Total	200	461584.000			
Corrected Total	199	6716.780			

$F(01,197) = 3.90$  at .05 level and 6.76 at .01 level

**Table No. 5**

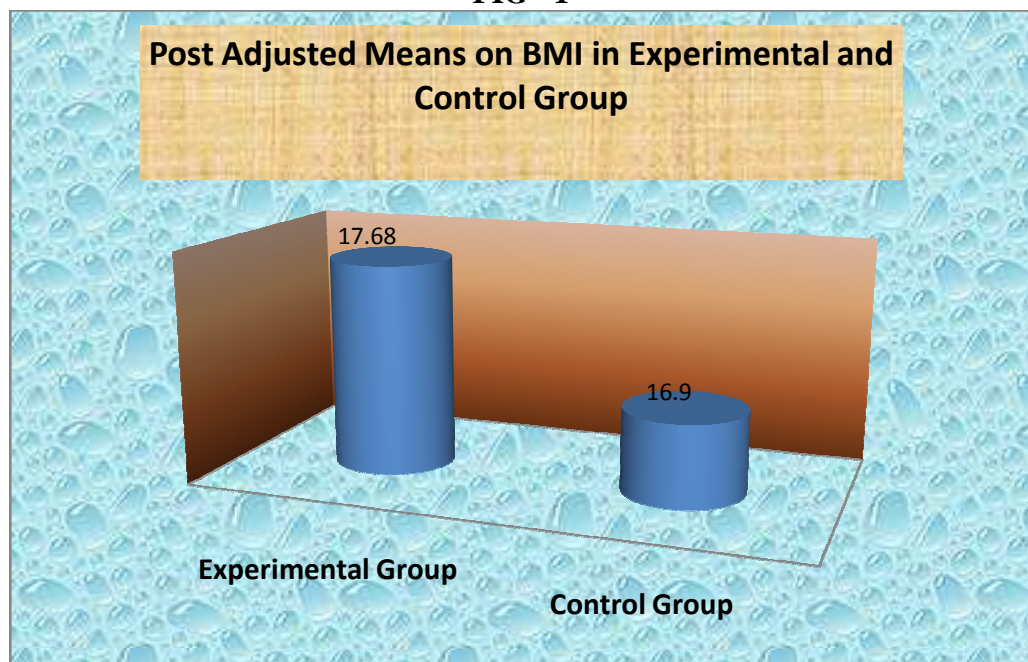
**Shows Post Adjusted Means on Weight in Experimental and Control Group**

Group	Mean	Standard Error
Experimental Group	48.85	0.119
Control Group	46.53	0.119

Covariates appearing in the model are evaluated at the following values:  
Pre -test weight = 45.81

The reported  $F=189.76$  in Table No. 4 indicate that there is significant difference in post-test mean scores on weight between experimental ( $M=48.85$ ) and control group ( $M=46.53$ ) Table No. 5. It shows that weight of the subjects belonging to experimental group have increased significantly during study period at .01 level of statistical significance with pre-test weight scores acted as covariates.

**FIG - 1**



Post adjusted means on BMI in experimental group was 17.68 and control group was 16.90. It shows that after dietary counselling BMI of the subjects belonging to experimental group was increased in experimental group as comparison to control group (FIG-1).

**CONCLUSION**

The study was concluded that after dietary counselling weight was improved in experimental group as comparison to control group. So dietary counselling is helpful of maintain weight in pulmonary tuberculosis patients. On the bases of above findings of

the study we find that after my counselling Weight was improved in experimental group. Under nutrition with weak immunity was a main cause of low weight in pulmonary tuberculosis patients. Good nutrition helps for improvement of good health during disease time. Our present study showed good nutrition was help of improved weight on pulmonary tuberculosis patients. After dietary counselling weight were significantly increased in pulmonary tuberculosis patients. We saw only three months period but long time good nutrition intake by patients was help for good health status of pulmonary tuberculosis patients.

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