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## A study to assess and evaluate the client volunteer teaching in terms of knowledge, compliance and life style modification regarding tuberculosis among patient in selected DOTS Centres Ambala, Haryana

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### Abstract

**Objective:** The objectives of the study were to assess and evaluate the knowledge, compliance and life style modification before and after administration of client volunteer teaching; to determine the relationship between knowledge, compliance and life style modification and find out the association of knowledge, compliance and life style modification of tuberculosis patient with selected variable.

**Methodology:** Quasi-experimental research approach with one group pre-test and post test design was used and 100 respondents were selected by purposive sampling technique in selected DOTS centre of Ambala, Haryana. The content reliability for structured knowledge questionnaire was formulated by Kuder- Richardson 20(Kr -20), Compliance rating scale and life style modification rating scale by using Cranach's alpha which was found to be 0.83; 0.74 and 0.84 respectively.

**Result:** The mean of structured knowledge questionnaire before and after administration of client volunteer teaching was 13 and 16.23 respectively. where as In the area wise were knowledge score: the highest of pre-test score was in the area of concept of tuberculosis, risk factors and causes (51.37%) and post test score in the area of Investigation, treatment and prevention (45%). The mean of compliance of tuberculosis patient before and after administration was 20.33 and 21.68 respectively. The mean of life style modification of tuberculosis patient before and after administration was 34.92 and 37.36 respectively. The study finding reveals that non-significant correlation between knowledge, compliance and life style modification after administration of client volunteer teaching. Further the finding shows Knowledge and compliance with residence (2. 710), ventilation (3.76) and lightening (3.39) and age (3.15), Type of house (2.103), BCG (2.406), were found statistically significant at 0.05 level of significance respectively.

**Discussion:** In the present study, mean post test knowledge score (16.23±3.73) was higher than mean pre test knowledge scores (13.00 ± 4.00). Nearly similar types of finding were reported by Raman lal patidar that the total mean pre -test score 52.73% and post -test score 81.05% which shows the increase in post test knowledge.

**Conclusion:** The study concluded that the client volunteer teaching was effective in improving the knowledge, compliance of tuberculosis patient and effective to modify the life style of tuberculosis patient.

**Keywords:** Client volunteers teaching, Knowledge, compliance, Life style modification, DOTS, Tuberculosis

### Introduction

Tuberculosis is an infectious disease spread by person to person at all age and sex group. Tuberculosis (TB) is regarded as one of the highest burden among communicable diseases [1]. The global incidence rate of tuberculosis is growing at approximately 1.1 percent per year and the number of cases at 2.4% per year. One Third of the world's population is already infected with the Tuberculosis bacterium [2].

Tuberculosis remains a major public health problem worldwide. In recent years, increasing efforts have been dedicated to assessing the health-related quality of life experienced by people infected with tuberculosis. Tuberculosis is the leading cause of death from outside the infectious diseases. TB has affected mankind of over 50000 year and still continues the major cause of morbidity and mortality [3].

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India two deaths occur every three minutes from tuberculosis (TB). But these deaths can be prevented with proper care and treatment. TB patient can be cured and battle against Tb can be won [5].

At present there are 38,104 tuberculosis patients in Haryana, who have access to highly effective observed treatment strategy In Ambala district of Haryana population covered by RNTCP is 11.8 lakh till 2013. In Ambala District number of suspected cases examined was 14082, out of which 12% were smear positive cases, however patient registered for treatment was 1652 [4].

**Methodology**

Quasi-experimental research approach with one group pre-test and post test design was used and 100 respondents were selected by purposive sampling technique in selected DOTS centre of Ambala, Haryana. Researcher prepares three client volunteers to provide the teaching to the 100 Tuberculosis Patients. The tools used for data collection were structured knowledge questionnaire, compliance rating scale to assess the compliance and life style rating to assess the life style of tuberculosis patient. Content validity the tools were established by submitted to nine expert including, Five experts were from community health nursing, two from Medical surgical nursing, One were from Obstetric and gynaecological nursing and one from preventive and social medicine. The content reliability of structured knowledge questionnaire by Kuder- Richardson 20(Kr -20), Compliance rating scale and life style modification rating scale by using Cranach’s alpha which was found to be 0.83; 0.74 and 0.84 respectively. The item analyses of the structured knowledge questionnaire were analyzed for item difficulty and discrimination value. The item difficulty varied from range of 30%to 80% and discrimination value 0.20 to 0.5. Item difficulty and discrimination index were found to vary within acceptable range.

Ethical approval was obtained from the Institutional Committee for conducting the research study. The purpose for carrying out research project was explained to the study subject and assurance for confidentiality was given. The approval taken to conduct the final from district tuberculosis officer of DOTS Centre civil hospital, Ambala, Haryana. The data collection was done in the month of January 2015.

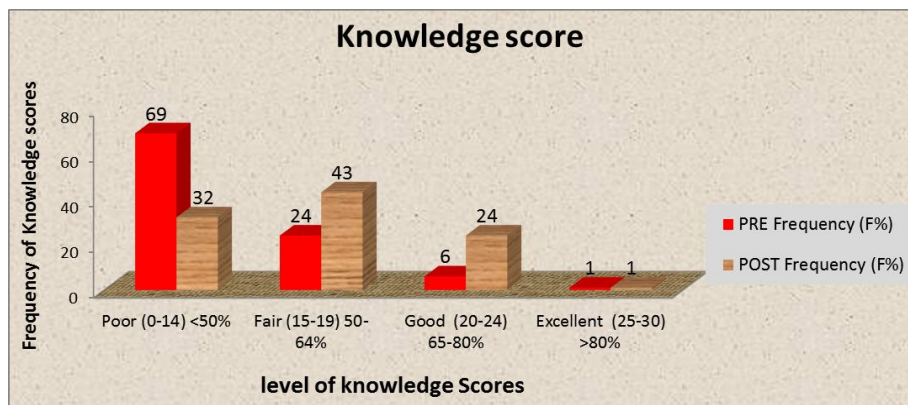
**Results**

**Sample characteristics**

Majority of tuberculosis patient were Male (76%) in the age group of 18-40 years (56%), maximum numbers of tuberculosis patient (90%) were in Hindu and (78%) were married. For majority of the tuberculosis patient (45%) was having education up to primary. Majority of the patient (74%) were unemployed /house wife. Majority patient (73%) were in the joint family. The majority of tuberculosis patient (74%) had total family income per month of <5000. Most of the tuberculosis patient (74%) was live in the urban area. Most of the patients (56%) were live the kaccha house and rooms in residing hose most (85%) were had 2- 4. Most of the (68%) were having adequate ventilation and (69%) were having adequate lightening in the house. 70% of the tuberculosis patient were live their own house. Majority of the tuberculosis patient (72%) family member were not affected by the tuberculosis. Most of the tuberculosis patient (82%) had duration of illness is less than one year. Most of the patient (66%) was in category I. Majority of the patient (74%) had hospitalization due to tuberculosis. Majority of the patient (70%) were satisfied with their health education provided. Maximum Number of patient (81%) done BCG vaccination at birth time.

**Knowledge**

The majority of tuberculosis patient (69%) had below poor knowledge (0-14) in pre-test and in post test the tuberculosis patient (43%) had average knowledge (20-24)



**Fig 1:** Bar graph shows the frequency of Tuberculosis Patients in terms of level of knowledge regarding Tuberculosis

**Table 1:** Mean, Median Difference, Standard Deviation of Difference, Standard error of mean Difference form pre-test to post-test knowledge Scores and t\_ value, N= 100

Knowledge test	Mean	Mean D	SD <sub>D</sub>	SE <sub>MD</sub>	t	P value
Pre-test	13.00	3.23	0.27	0.52	6.12*	0.01
Post-test	16.23					

t(99)=1.98 \* significant (p≤0.05)

The data presented in tables 1 shows that t value is significant at that the mean post test knowledge score (16.23) was higher than mean pre-test knowledge score (13.00) with a mean difference of 3.23. The computed t

value of 6.12 was found statistically significant at 0.05 level of significance which showed that there was significant difference in the mean pre –test and post –test knowledge score.

**Table 2:** Area Wise mean Difference, standard Deviation of difference, Standard Error of Mean Difference and t- Value of pre-test and post –test Knowledge Scores

Knowledge area	Pre-test And post test			T Value	P Value
Concept of tuberculosis, risk factors and causes	Mean <sub>D</sub> 1.28	SD <sub>D</sub> 0.08	SE <sub>ED</sub> 0.23	5.45*	0.01
Mode of transmission, sign and symptoms	0.83	0.1	0.14	5.83*	0.01
Investigation, treatment and prevention	4.23	0.19	0.28	14.64*	0.01
Patient education	0.51	0.28	0.20	2.52*	0.01

Data presented in table 2 reveals that the computed t value in the area of Concept of tuberculosis, risk factors and causes, Mode of transmission, sign and symptoms, investigation, treatment and patient was found to be statistically significant at 0.05% level. In the area of knowledge questionnaire found that modified gain score computed between the pre-test and post –test knowledge

score reveals that maximum gain in knowledge relative to possible gain was in the area of Investigation, treatment and prevention.

**Effective ness of client volunteer teaching in terms of compliance**

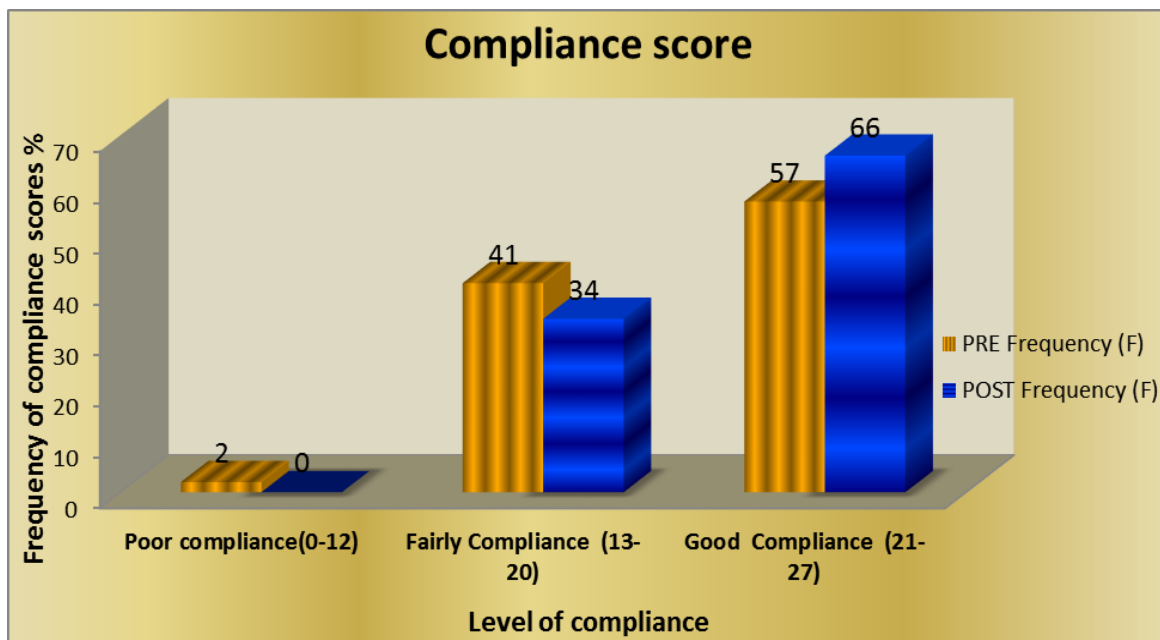
**Table 3:** Mean, Mean Difference, Standard Deviation of Difference, Standard error of mean Difference and t- value of pre-test to post-test compliance, N=100

Knowledge test	Mean	Mean D	SD <sub>D</sub>	SE <sub>MD</sub>	T value	P Value
Pre-test	20.33	1.35	1.31	0.55	2.41*	0.01
Post-test	21.68					

t(99)=1.98 \* significant (p<0.05)

Data presented in table 3 depict that the mean post test of compliance score (21.68) was higher than mean pre-test of compliance score (20.33) with a mean difference of 1.35. The computed t value of 2.41 was found to be statistically

significant at 0.05 level of significance which showed that there was significant difference in the mean pre-test and post –test compliance score



**Fig 2:** Bar Graph showing Level of Compliance of Tuberculosis Patients regarding tuberculosis.

**Part b:** finding related to compliance regarding dots treatment of tuberculosis patients  
 This section describes the finding related to compliance regarding DOTS treatment of Tuberculosis Patients Obtained through Performa to assess the compliance rate of Tuberculosis Patients. Out of 100 tuberculosis patient 25 tuberculosis patients were having non-compliance regarding DOTS treatment.

**Table 4:** Frequency and percentage distribution of tuberculosis patient for reason of non compliance dots treatment regarding tuberculosis, n=25

Reasons	f	%
Access to services	1	4
Long waiting hours in dots canter	2	8
More number of medication	6	24
Misconception regarding treatment	4	16
Poor knowledge and belief regarding tuberculosis	6	24
Substance abuse	4	16
Side effect	2	8

**Effective ness of client volunteer teaching in terms of life style modification**

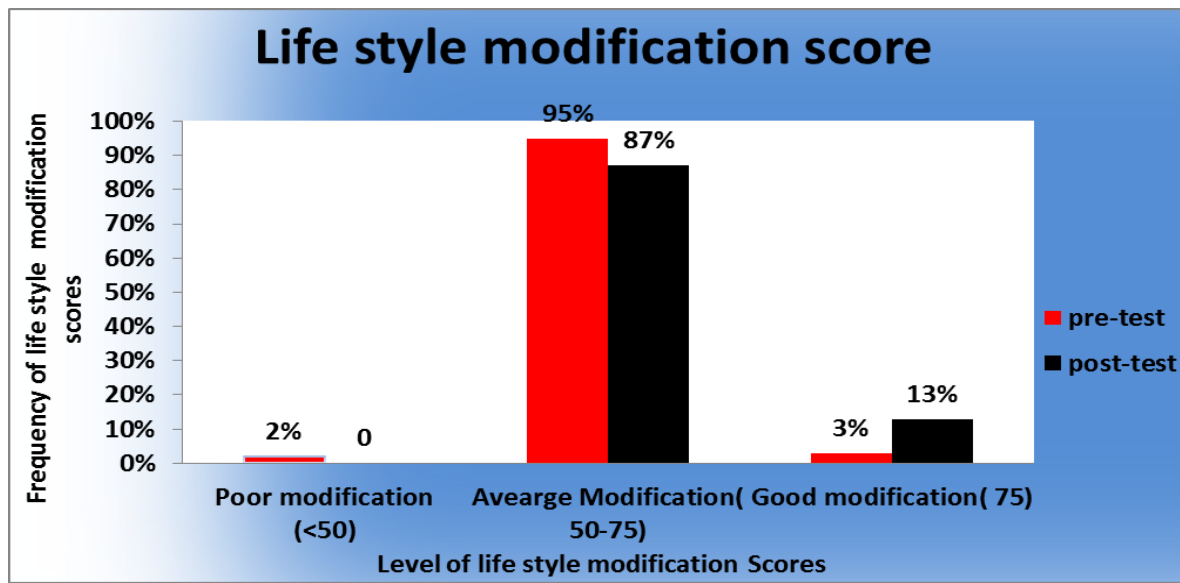
**Table 5:** Mean, Mean Difference, Standard Deviation of Difference, Standard error of mean Difference and t- value of pre-test to post-test Life style modification score

test	Mean	Mean D	SD <sub>D</sub>	SE <sub>MD</sub>	T Value	P Value
Pre-test	34.92	2.44	0.38	0.58	4.17	0.01
Post-test	37.36					

t (99) = 1.98 \*significant (P<0.05)

Data presented in table 5 depict that mean post test life style modification score (37.36) was higher than mean pre-test compliance score (34.37) with a mean difference of 2.44. The computed t value of 4.17 was found to be statistically

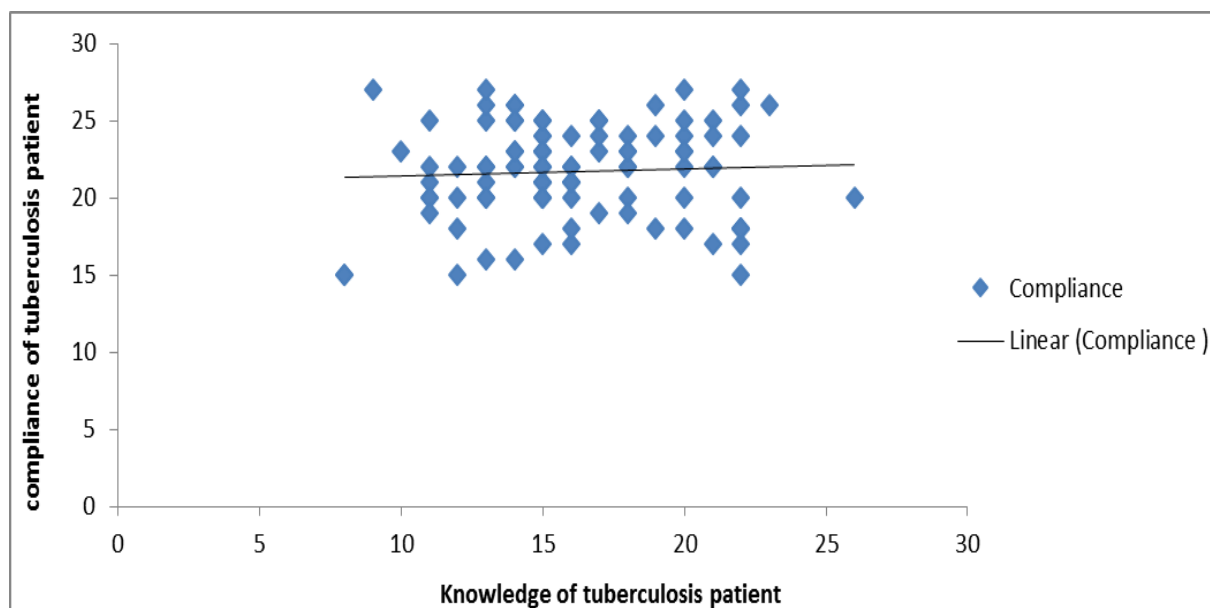
significant at 0.05 level of significance which showed that there was significant difference in the mean pre-test and post –test life style modification score.



**Fig 3:** Bar Graph showing level of life style modification of Tuberculosis Patient regarding tuberculosis.

**Co-efficient of correlation**

There were no significant relationship between the post test knowledge score with post test compliance score and post test life style modification score.



**Fig 4:** Scatter diagram showing relationship of knowledge and compliance of Tuberculosis Patients.

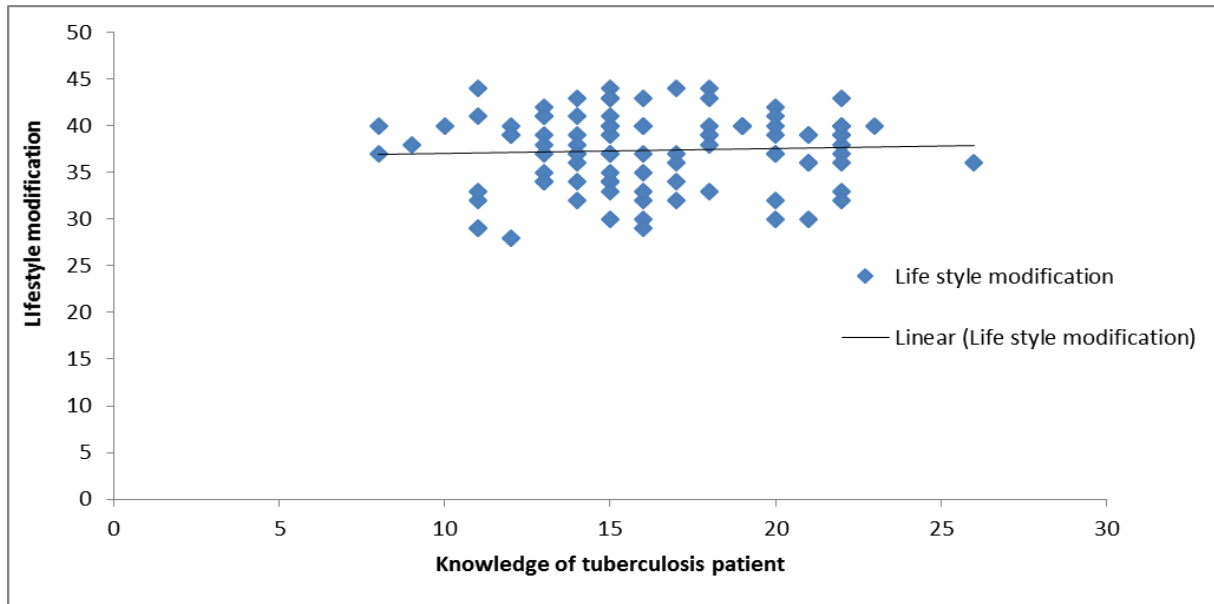


Fig 5: Scatter diagram showing relationship of knowledge and life style modification of Tuberculosis Patients.

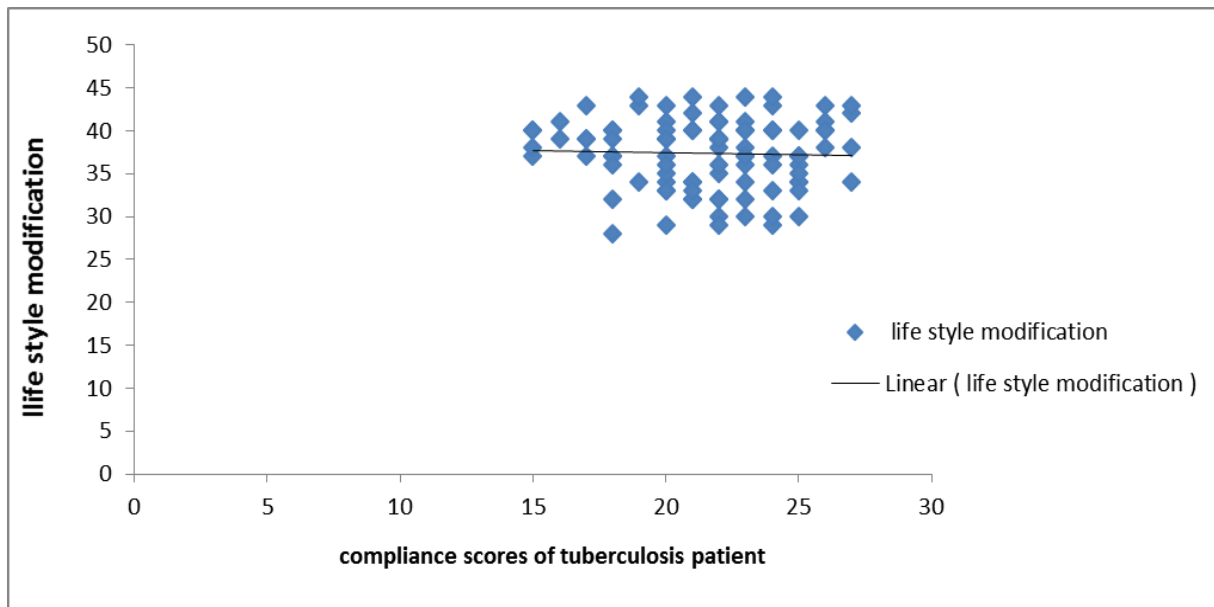


Fig 6: Scatter Diagram showing the Relationship between compliance and life style modification of Tuberculosis Patients

**Association**

ANOVA and t test value of tuberculosis patient regarding tuberculosis knowledge with residence (2.710), ventilation (3.76) and lightening (3.39) was found statistically significant at 0.05 level of significance.

ANOVA and t –test value of tuberculosis patient computed for compliance with age (3.15), Type of house (2.103), BCG (2.406), were found statistically significant at 0.05 level of significance

Computed ANOVA and t –test value life style modification was not found significant at 0.05 level of significance

**Discussion**

In the present study, mean post test knowledge score (16.23±3.73) was higher than mean pre test knowledge scores (13.00 ± 4.00). Nearly similar types of finding were reported by Raman lal patidar in his study i.e the total mean pre –test percentage 52.73% and post –test percentage 81.05% which shows the increase in post test knowledge.

The t value was computed to determine the significance of difference the mean pre-test and post-test knowledge scores. A similar type of study to assess the effectiveness conducted by by Raman lal patidar “t” calculated 21.87 is more than “t” table 2.000 at the 0.05 level of significance so it shows the very highly significant and association between pre-test and post-test knowledge score.

In the present study, mean post test compliance (21.68±3.02) was higher than mean pre-test compliance scores (20.33±4.33). The t value was computed to determine the significance the mean pre-test and post-test compliance scores. and “t” calculated 2.41 is more than table “t” table 1.98 at the 0.05 level of significance. The similar studies conducted by Volminck *et al* 2000 emphasize the wide array of intervention to promote the adherence. The total mean pre–test 18 and post test mean 20 which show the increase in post test knowledge and “t” calculated 6.09 is more than “t” table 2.000 at the 0.05 level of significance so it shows the very highly significant and association between pre-test and post-test compliance score

In the present study, mean post test life style modification ( $37.36 \pm 3.98$ ) was higher than mean pre test knowledge scores ( $34.92 \pm 3.60$ ). Nearly similar types of finding were reported by V.Ramanaryana Reddy in his study the total mean pre –test percentage increases to 31.5 to 128. 08.

### **Conclusion**

The study conclude that the client volunteer teaching was effective in increasing the knowledge of tuberculosis, improving the compliance and modify the life style of tuberculosis patient regarding tuberculosis.

The finding of the study reveals that the non significant relation between the post test knowledge score and life style modification score.

The finding of the study reveals that no association between the life style modifications with selected variable.

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