

## A Study to Evaluate The Effectiveness of Planned Teaching Programme on “Improvement of Quality of Life” on Tuberculosis Patients in Terms of Knowledge and Expressed Practice in Selected Hospital of Uttar Pradesh.”

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**Abstract:** A study was conducted to determine the effectiveness of planned teaching programme on “improvement of quality of life” on tuberculosis patients in terms of knowledge and expressed practice in selected hospital of Uttar Pradesh.” An experimental study was conducted in which tuberculosis patients were selected. The sample consist of 60 tuberculosis admitted patients. Pre and post test were taken to assess the knowledge and expressed practices. A significant improvement in knowledge (  $t=13.125$ ) was assessed in post test and significant improvement in expressed practice (  $t=15.329$ ).

**Keywords: Quality of life:** The degree of satisfaction or dissatisfaction felt by people with reference to health, function, economics, comfort, emotions and disease specific symptoms. QOL in different dimensions, these are - Physical functioning, Psychological, Social, Spiritual.

**Tuberculosis patients** - People who are diagnosed to be infected with mycobacterium tubercular and are in different category of treatment.

**Planned Teaching Programme** - It is one time systematized and organized verbal group instruction with instructional aides to impart knowledge regarding improvement of quality of life in tuberculosis.

**Effectiveness** - It denotes enhancement of knowledge and improvement of practices.

**Selected Factors-** Denote certain factors that play a vital role in influencing knowledge and practice on improvement of quality of life in TB patients.

**Knowledge-** The ability of the tuberculosis patients to respond to the items.

**Expressed practice** - It refers to one's ability to perform an activity correctly. In the present study, practice denotes activities carried out with regard to improvement of quality of life by tuberculosis patients on expressed practice scores.

### I. Introduction

India accounts for nearly one third of total cases of TB every year, approximately 2.2 million develop TB of which about one million positive and highly infectious cases The problem of TB is acute in the developing countries which accounts for more than three fourth of the cases in the world and where the majority of cases are never diagnosed at all, less get correctly treated. In majority of the developing countries, there has been little improvement in the epidemiological situation. In fact there has been an overall increase in the absolute number of TB cases in these countries during the last three decades, because of the population explosion. TB continues to be a major health problem in India. An education about the anti TB treatment controls the disease, cures the disease and reduces the incidence of TB and prevents the evil effects of the disease and improves quality of life in tuberculosis patients. For this, National TB Control Programme was implemented in 1962 to create a nationwide infrastructure for TB control. The magnitude of human suffering forced the Government of India into launching a revised strategy revised national TB control programme (RNTCP) IN 1993. The main pillar of the programme is DOTS which helps to ensure care by providing the most effective medicine and confirming that it is taken.

### II. Objectives of the study

1. Develop a planned teaching programme on improvement of quality of life for tuberculosis patients.
2. Assess and evaluate the knowledge of tuberculosis patients before and after administration of planned teaching programme on improvement of quality of life.
3. Assess and evaluate expressed practices of tuberculosis patients before and after administration of planned teaching programme on improvement of quality of life.
4. Determine the relationship between knowledge & expressed practice of tuberculosis patients after administration of planned teaching programme on improvement of quality of life.
5. Determine the association between post-test knowledge scores of tuberculosis patients and selected factors such as --

- ✓ Age
  - ✓ Sex
  - ✓ Religion
  - ✓ Type of family
  - ✓ Education
  - ✓ Marital status
  - ✓ Monthly income
  - ✓ Occupation
  - ✓ Place of living
  - ✓ Category of illness
6. Determine the association between post-test expressed practice scores of tuberculosis patients and selected factors such as --
- ✓ Age
  - ✓ Sex
  - ✓ Religion
  - ✓ Type of family
  - ✓ Education
  - ✓ Marital status
  - ✓ Monthly income
  - ✓ Occupation
  - ✓ Place of living
  - ✓ Category of illness

### **Conceptual framework**

The conceptual frame work adopted for the study was based on system model.

### **III. Review of literature**

**Arya Hridayesh, Singh B. R. (2007)** a study was carried out to assess the prevalence and risk factors of pulmonary tuberculosis in Western Uttar Pradesh. The prevalence of pulmonary tuberculosis was significantly higher in low income group as compared to high income group it also reveals that the population of high income group has low prevalence than low income group. Poor socio-economic status with its poor education is associated with poor knowledge of tuberculosis, risk of infection and dissemination, inadequate and delayed availability of health care. Poverty also results in poor nutrition, which is likely to render the immune system more vulnerable to the invading organism.

**Sharmila hamid et al (2012)** a cross sectional hospital based study shows that higher sputum positive rate was seen in chest symptomatic above 55 years of age. Sputum positivity rates were also high among illiterates, patients belonging to low socio-economic class, patients who had no history of contact and had no family history of tuberculosis. This data indicates the need for increased vigilance among the vulnerable groups in Srinagar.

**Dhuria M. et al (2008)** stated that the TB patients had significantly lower mean scores than the controls for overall QOL and its domains. The most affected domains were physical and psychological. The patients also scored high in the Social domain. The mean difference in scores for the cases and the controls was highly significant for all the domains and the overall QOL; physical, psychological, Social, environmental and overall QOL as shown by the *t*-test for independent samples. It can be inferred that the QOL of TB patients was lower than the controls and all domains of QOL are affected in TB.

**Letrait (2006)** stated that apart from the physical symptoms, a patient with tuberculosis faces several physiological, psychological, financial and social problems. These problems impair the quality of his/her life and have a great impact on his/her well being. It has been recognized that the quality of life indices, which focus on patients' own perception of disease, provide additional information that cannot be found from conventional clinical and functional measurements.

**Shekhar C.T. et al (2013)** Survey conducted in Department of Community Medicine, Kasturba Medical College, Mangalore. In this study total 109,070 households included. The samples of men and women interviewed were 74,360 and 124,358 respectively. The number of respondents who had “heard of an illness called tuberculosis” was 177,423 (89.3%). Of these 47,487 (26.8%) participants did not know and 55.5% knew about the correct mode of tuberculosis transmission i.e. “Through the air when coughing or sneezing”. The

common misconceptions about transmission were "Through food" (32.4%), "Sharing utensils" (18.2%), and "Touching a person with tuberculosis" (12.3%). Only 52,617 (29.7%) participants had correct knowledge without misconceptions. Knowledge about tuberculosis transmission is very poor and misconceptions still exist.

**Prased R. (2009)** a cross sectional study was conducted to determine the impact of health education on DOTS strategy among general population in New Delhi, India. 1008 subjects were selected randomly, data was collected before and one week after the campaign by structured interview schedule. A significant increase ( $p > 0.01$ ) was seen in post test knowledge scores compared to pretest knowledge scores. The study concluded that the health education was been effective in improving knowledge of general public.

**Kavitha M. (2009)** conducted a pre experimental research study to assess the effect of planned teaching programme on care of tuberculosis patients for improving health status of tuberculosis patients in Indore, India. The method adopted was one group pre test post test design. The purposive sampling technique was used for data collection. The study concluded that planned teaching on care of tuberculosis patients for improving health status was an effective method of improving the knowledge of the tuberculosis patients.

#### **IV. Methodology**

**Research design-** is a pre- experimental "one group pre test, post test design".

**Setting** - The research setting selected for the study was S.N. Hospital, Agra, U.P.

**Population** – Population for the present study comprised of tuberculosis patients aged between 18- above 60 years who are admitted in selected Hospital of Agra, U.P.

**Sample size** – The total number of 60 tuberculosis patients were selected.

**Sampling technique** - In the present study purposive sampling was used for selecting the subjects.

**Criteria for sample selection**

1. Adults who are between 18-60 years and above.
2. Adults who have tuberculosis.
3. Adults who are willing to participate in the study
4. Adults who can verbalize their feelings.

#### **Description of Tools**

**Tool 1:** A structured interview schedule, to assess the knowledge of tuberculosis patients regarding improvement of quality of life.

**Tool 2:** Structured rating scale to assess expressed practices of tuberculosis patients regarding improvement of quality of life.

#### **Description Of Structured Knowledge Interview Schedule**

It consists of two sections:-

**Section – 1:** It consists of two parts.

**Part – 1:** It comprised of the 12 items seeking information on background data of tuberculosis patients such as age, sex, religion, educational qualification, type of family, size of family, occupation, monthly income, marital status, place of living and category of illness.

**Part 2:** This contains 25 knowledge items. The following areas were covered in the structured knowledge interview schedule on quality of life:-

- Concept of tuberculosis
- Physical health
- Psychological health
- Social health
- Spiritual health
- Prevention of tuberculosis
- Treatment of tuberculosis

#### **Development Of Structured Expressed Practice Rating Scale**

##### **Section 2**

A rating scale was constructed to assess the expressed practice of tuberculosis patients regarding improvement of quality of life based on review of literature and expert's opinion.

#### **Description Of Structured Expressed Practice Rating Scale**

It consists of 24 items to rate the expressed practices of the tuberculosis patients regarding improvement of quality of life. For each statement there were responses such as 'always', 'sometimes' 'rarely' and 'no practice'. Each respondent was required to give his/her opinion for each statement. The score for each

score were as follows: always – 3, sometimes – 2, rarely – 1, no practice – 0. Maximum score was 72 and the minimum score was 0.

### Development Of Planned Teaching Programme

A planned teaching programme was developed to enhance knowledge and build up a favorable practice of tuberculosis patients on improvement of quality of life in tuberculosis. Planned teaching programme was developed on the basis of extensive review of research and non research literature, consultation with experts and researcher’s personal experience. The following steps were carried out to develop planned teaching programme.

- a. Development of criterion that rates the scale for the content validity of the planned teaching programme.
- b. Preparation of the first draft of planned teaching programme on improvement of quality of life on tuberculosis patients.
- c. Establishment of content validity.
- d. Development of final draft of planned teaching programme

The following areas were covered in planned teaching programme

- Concept of tuberculosis
- Causes, signs and symptoms, diagnosis evaluation, treatment.
- Physical health
- Psychological health
- Social health
- Spiritual health
- Prevention of tuberculosis
- Treatment

### V. Data Collection

Data collection was conducted from 16<sup>th</sup> December’ 2013 to 7<sup>th</sup> January’ 2014 in T. B. Dept., S.N Hospital, Agra. The sample included 60 tuberculosis patients who were available during the period of data collection and were selected by purposive sampling, the purpose of the study was explained to the group and the confidentiality of the responses was assured. The data was collected according to research design, i.e. on day one the pretest for knowledge and expressed practice was taken followed by the planned teaching programme. The post test was taken on the 7<sup>th</sup> day after providing planned teaching programme. Planned teaching programme was administered by using the slide show with the help of laptop and LCD monitor.

### VI. Findings of the study

Most 60% of tuberculosis patients were in the age group of 18-30 years. Most (60%) of the tuberculosis patients were males and 40% were females. Majority (76.67%) of tuberculosis patients were Hindu. (58.33%) were married. (68.33%) of tuberculosis patients were from nuclear family. Maximum (63.33%) tuberculosis patients were from ‘5-8 members’ in the family. (46.67%) of tuberculosis patients were illiterate. (23.33%) of patients were self employed . Most (68.33%) of tuberculosis patients had monthly family income ranging less than Rs. 5000 or Rs. 5,000 per month. (60%) of tuberculosis patients stayed in rural area. (56.67%) who did not have any habit of smoking or alcohol where as 6.67% smoked. Majority (45%) of tuberculosis patients were in 1<sup>st</sup> category of illness whereas 33.33% were in 2<sup>nd</sup> category and 21.67% were under MDR.

**Table – 1** Mean, Mean Difference, Standard Deviation of Difference, Standard Error of Mean Difference, “t” Value from Pre Test and Post Test Knowledge Scores **N-60**

KNOWLEDGE TEST	Mean	Mean D	SD D	SE MD	“t” value
Pre test	10.90	6.87	4.052	.523	13.125*
Post test	17.76				

\* Significant at 0.05 level, df (59) t =2.14

The data presented in Table 1 indicated that mean post test knowledge scores (17.76) was significantly higher than the mean pre test knowledge scores (10.90) with the mean difference of 6.87. The obtained mean difference was statistical significantly as evident from “t” value of 13.125 for degree of freedom (59) at 0.05 level of significance. Thus, it is established that the difference obtained in mean pre test and post test knowledge score was a true difference and not by chance.

**Table – 2** Mean, Median, and Standard Deviation of Pre Test and Post Test of Expressed Practice Scores of Tuberculosis Patients on Improvement of QOLN-60

Expressed practice test	Mean	Median	SD
Pre test	26.93	25.5	9.538
Post test	45.62	45	8.258

The data presented in Table 2 indicated that mean post test expressed practice scores (45.62) was significantly higher than the mean pre test knowledge scores (26.93). The standard deviation of post test expressed practice score (8.258) was lower than that of pre test expressed practice score (9.538), it indicating that the group became more homogenous in terms of their practice after administration of planned teaching programme.

**Table - 3** Frequency Distribution of Pre Test and Post Test Expressed Practice Scores of Tuberculosis Patients N-60

Class interval	Frequency	
	Pre test	Post test
1-8	0	0
9-16	4	0
17-24	22	0
25-32	22	2
33-40	6	13
41-48	5	25
49-56	0	16
57-64	1	4
65-72	0	0

The data presented in Table 3 indicate that the obtained range of pre test expressed practice scores of tuberculosis patients with the maximum frequency 22 in the class interval of 17-24 and 25-32. Post test expressed practice scores with maximum frequency 25 in the class interval of 41- 48. The mean and median of pre test expressed practice scores of tuberculosis patients 26.93 and 25.5. The mean and median of post test expressed practice scores of tuberculosis patients 45.62 and 45. The close value of mean and median is suggestive of the distribution of expressed practice scores to be almost normal.

**Table – 4** Area wise mean percentage and mean percentage gain of pre test and post test expressed practice scores expressed by tuberculosis patients N- 60

S.N	Practice area	Max. score	Pre test		Post test		Mean % gain
			Mean score	Mean % score	Mean score	Mean % score	
1.	Physical	30	12.24	41.27	20.25	67.5	26.23
2.	Psychological	12	4.87	40.56	7.25	60.25	19.69
3.	Social	9	3.75	41.66	6.43	71.47	29.81
4.	Spiritual	9	3.12	34.65	4.016	44.62	9.97
5.	Prevention	6	0.85	14.16	5.33	88.88	74.72

The data presented in the Table 4 indicates that in the pre test the lowest mean percentage score was in the area of Prevention (14.16%) representing maximum knowledge deficit existing in this area followed by Spiritual (34.65%), Psychological (40.56%), Physical (41.27%) and Social (41.66%).

Data in Table 4 further indicates that the mean post test score in all the areas were higher than the pre test mean expressed practice score. Highest post test mean percentage score was in the area of Prevention (88.88%) followed by Social (71.47%), Physical (67.5%), Psychological (60.25%) and Spiritual (44.62%). Maximum of mean percentage gain was in the area of Prevention (74.72%) followed by Social domain (29.81%), Physical domain (26.23%), Psychological domain (19.69%) and Spiritual domain (9.97%).

**Table 5** Mean, Mean Difference, Standard Deviation of Difference, Standard Error of Mean Difference and “t” Value from Pre Test and Post Test Expressed Practice Scores N-60

Expressed practice test	Mean	Mean D	SD D	SE MD	“t”
Pre test	26.93	18.68	9.44	1.218	15.329*
Post test	45.62				

\*Significant at 0.05 level of significance ,df (59) t=2.14

The data presented in Table 5 indicated that mean post test expressed practice scores (45.62) was significantly higher than the mean pre test expressed practice scores (26.93) with mean difference of 18.68. The obtained mean difference was found to be statistically significant as evident from “t” value of 15.329 for degree of freedom 59 at 0.05 level of significance. Thus, it was established that the difference obtained in mean pre test and post test expressed practice scores is a true difference and not by chance.

**Table- 6** Area Wise Modified Mean and Rank Order of Pre Test and Post Test Expressed Practice Scores of Various Domains of QOLN-60

S.N	Domain Of Qol	Modified Mean Of Pre Test	Modified Mean Of Post Test	Modified Mean Difference	Rank
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1	<b>Social Domain</b>	1.25	2.14	0.89	I
2	<b>Physical Domain</b>	1.24	2.03	0.79	Ii
3	<b>Psychological Domain</b>	1.22	1.81	0.59	Iii
4	<b>Spiritual Domain</b>	1.04	1.34	0.30	Iv

Table 6 shows that there is considerable difference in modified mean scores in every domain of QOL before and after planned teaching programme. It further shows that social domain was improved the most whereas spiritual domain was least affected.

**Table 7** Coefficient of Correlation between Post Test Knowledge and Post Test Expressed Practice Scores of Tuberculosis Patients on Improvement of QOLN-60

VARIABLES	MEAN	“r”
Knowledge	17.76	0.57*
Expressed practice	45.62	

\* Significant at 0.05 level of significance

The data presented in the Table 7 shows the coefficient of correlation between post test knowledge scores and post test expressed practice scores of tuberculosis patients. There was positive co-relation between post test knowledge scores and post test expressed practice scores of tuberculosis patients after administration of PTP with demonstration as “r” value obtained (0.57) is more than the tabulated value (0.250) at 0.05 level of significance.

**Findings showing association of post test knowledge scores of tuberculosis patients with selected factors age, sex, religion, type of family, education, marital status, monthly income, occupation, place of living, and category of illness.**

Chi square value did not show association between post test knowledge scores and selected factors of tuberculosis patients. Findings showing association of post test expressed practice scores of tuberculosis patients with selected factors age, sex, religion, type of family, education, marital status, monthly income, occupation, place of living, and category of illness. Chi square value did not show association between post test expressed practice scores and selected factors of tuberculosis patients except “education”.

**VII. Conclusion**

**The following conclusions were drawn from the study:-**

Planned teaching programme on improvement of quality of life was meant to be an effective strategy in enhancing the knowledge and practice of tuberculosis patients. A positive correlation was found between post test knowledge and post test expressed practice scores. This concludes that increase in knowledge is also developing more good practices on quality of life in tuberculosis patients.

There was no significant association between knowledge of tuberculosis patients and selected factors. It shows that knowledge of tuberculosis patients are not influenced by their age, sex, religion, type of family, marital status, education, occupation, and monthly income, place of living and category of illness. There was no significant association between expressed practice and selected factors except education. It shows that practice of tuberculosis patients are influenced by their education. Planned teaching program on improvement of quality of life in tuberculosis patients was effective in improving QOL in all four domains as physical, social, psychological, and spiritual.

**VIII. Discussion**

The findings of the study revealed that tuberculosis patients had low level of knowledge, it was found that only 5% knew that TB was caused by a germ. Only 26% knew that it spread through droplet infection, and 6.67% knew about the preventive role of Bacillus Calmette-Guerin (BCG). The findings also consisted with the study of Chandrashekhar T. et al (2013) and they found that only (55.5%) known about correct mode of transmission. Tuberculosis patients have deficit knowledge towards quality of life before administration of planned teaching programme. The findings of the study are to some extent consistent with the study done by (Padumni K. Katyal S., Susy S. (2010)) in which planned teaching programme for tuberculosis patients increased the patient’s knowledge about disease, treatment, diet, preventive measures, exercise, psychological and social domain. Findings of the present study also revealed a significant gain in knowledge, and improvement of practices after administration of planned teaching programme, which showed the effectiveness of planned teaching programme, in increasing knowledge, learning better health practices and improving quality of life. Findings related to planned teaching programme was also consistent with that of Jayashree S Gothankar, Rajkumar K.(2010)in which the teaching programme was found to be effective in increasing the knowledge and in learning healthy practices among the tuberculosis patients. The finding also consisted with the study of

Kavitha M, (2009) who developed planned teaching program and using booklet on care of tuberculosis patients for improving health status of tuberculosis patients in Indore, India. The study concluded that planned teaching on care of tuberculosis patients for improving health status was an effective method of improving the knowledge of the tuberculosis patients.

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