Nurse Led Patient Education Programme on Tuberculosis Diet

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Abstract

A Pre-experimental study was conducted with a aim to assess the effectiveness of Nurse led education programme with regard to knowledge on diet therapy among patients with tuberculosis attending TBCD clinic at a selected hospital, Andhra Pradesh; Using Non probability convenient sampling technique, 60 patients with Tuberculosis were selected. The findings reveled that in pre-test, majority 56 (93.33%) of participants had Inadequate knowledge compared to post-test, only 7 (11.66%) Participants had inadequate knowledge on diet therapy. The obtaining 't' value for knowledge (t=7.02, p>0.05) was significant at 0.05 level, indicating that the Nurse led education Programme on Diet Therapy was Effective in terms of the knowledge on diet therapy. Findings revealed that there was no significant association between the knowledge levels of Tuberculosis patients and selected variables like Gender, Education, at p<0.05 level.

Keywords: Nurse led patient education; Tuberculosis Diet; Tuberculosis patients; Patient education.

Introduction

Every human being is born with the responsibility to protect one's own health. This responsibility cannot be carried out if one is ignorant. (The ignorance of the fellow human being in the field of health is the moral obligation of each of the health professional). This is possible only by educating the public [1].

Tuberculosis is one of the six killer diseases caused by Mycobacterium Tuberculosis. The disease primarily affects lungs and causes pulmonary Tuberculosis. It can also affect intestines, meanings, bone s, joints, lymph glands, skin and other tissues of the body [17].

Tuberculosis is the world's second most common cause of death from infectious disease, after HIV/AIDS. An estimated 2 billion people (one third of the world's population) are infected with Mycobacterium Tuberculosis bacteria. There are an estimated 8 to 9 million cases a year and approximately 2 million people die annually [2].

India is the highest (TB) Tuberculosis burden country in the world. Each year 1.8 million develop Tuberculosis of which 0.8 million are new smear positive highly infectious cases. In 2014, WHO estimated that Tuberculosis kills 3 people every minute, covering one third of the world's population. Out of which about 35% of the infected

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cases reside in the South-East Asian region and 20% of the infected cases reside in India and Srilanka. The reasons for existing conditions are extreme poverty, poor sanitation, lack of proper health care and the emergence of new multidrug resistant Tuberculosis bacilli. These have complicated the disease in South-East Asian regions [3].

Tuberculosis and malnutrition are both problems of considerable magnitude that go hand in hand in many of the developing countries in the world to the very extent that Tuberculosis is considered to be one of the most frequent underlying causes of wasting worldwide [19].

Many patients with active Tuberculosis experience severe weight loss and some show signs of vitamin and mineral deficiencies. It is important to consume a balanced diet to provide body with the nutrients that needed to fight against tuberculosis.

Nutrition deficiencies generally increase the risk of progress in Tuberculosis and have an effect on the severity of the disease.

Objectives of the Study

- To evaluate the effectiveness of Nurse led education programme regarding Tuberculosis Diet by conducting pre test and post test among tuberculosis patients.

- To determine the association between the post test knowledge score on Diet Therapy with selected variables.

Hypothesis

H_1: Significant difference will be there between pre test and post test Knowledge Scores of Tuberculosis patients on Diet Therapy.

H_2: Association will be significant between the post test knowledge scores of Tuberculosis Patients on Diet therapy with their selected Variables.

Materials and Methods

Criteria for the Selection of Sample

Inclusion criteria: The study included patients with Tuberculosis who are:

- Attending TBCD clinic at NRI General Hospital, Chinakakani, Guntur.

- With age 21 years and above.

- Males and females.

- Able to read and write Telugu.

Exclusion criteria: The present study excluded patients with Tuberculosis who are:

- Attending other than TBCD clinic at NRI General Hospital, Chinakakani, Guntur.

- With age below 21 years.

- With other associated communicable disease (eg: HIV).

- With other associated conditions (eg: lung cancer).

- Already with information on Diet Therapy.

- Trans gender.

- Unable to read and write.

Setting of the Study

The present study was conducted at TBCD clinic in NRI General Hospital, Chinakakani, Guntur District, Andhra Pradesh based on the feasibility and Accessibility.

Sample and Sampling Technique

- *Sample:* Tuberculosis patients with age '21' years and above, attending TBCD Clinic at NRI General Hospital, Chinakakani, Guntur, Andhra Pradesh.

- *Sampling Design:* Non–probability sampling design.

- *Sampling Technique:* Non-probability convenient sampling technique.

- *Sampling Method:* convenient sample, because the subjects happen to be selected under study accidently due to their presence at the time of data collection.

- *Sample Size:* '60' patients with Tuberculosis and with age '21' years and above.

Method of Data Collection

Structured questionnaire was used to collect the data from the tuberculosis patient before and after nurse led education programme. The Nurse led education Programme was developed by the researcher by thorough review of literature and based on expert's suggestions.

Validity of the Tool

The tool and content was validated by seven subject experts and their suggestions were

incorporated in to the tool and content.

Reliability: The reliability of the tool was carried out by using Test and Re-test method, (r=0.89). Thus the tool was considered reliable to carry out the study.

Pilot Study: Study was conducted from 4-2-2017 to 9-2-2017, according to convenience, 6 subjects both males and females were selected by using probability simple random sampling method based on the inclusion and exclusion criteria. The findings revealed that study is feasible which led to conduct further study. These subjects were not included in main study.

Data Collection Procedure

After obtaining permission from the authorities; consent was taken from the participants. The data was collection for a period of 4 weeks (i.e) from 28-2-2017 to 28-3-2017, each day 8–10 subjects were selected for 8 days by using non-probability convenient sampling method; Questionnaire was administered for 30 minutes and Nurse led education on Tuberculosis Diet therapy was given for 45 minutes to the group followed by post test after 15 days from the day of pre test.

Results

Table 1: Frequency and percentage distribution of Socio Demographic characteristics of sample   N=60

S. No	Sample Characteristics	Frequency (f)	Percentage (%)
1.	*Age*		
	a) 21–28 years	20	33.33
	b) 29–36 years	19	31.67
	c) 37–45 years	21	35
2.	*Gender*		
	a) Male	31	51.67
	b) Female	29	48.33
3.	*Education*		
	a) Honor	6	10
	b) Graduate (or) Postgraduate	9	15
	c) Intermediate	7	11.67
	d) High school certificate	14	23.33
	e) Middle school certificate	6	10
	f) Primary school certificate	12	20
	g) Knows to read and write	6	10
4.	*Occupation*		
	a) Profession	3	5
	b) Semi profession	18	30
	c) Clerical shop owner	6	10
	d) Skilled worker	13	21.67
	e) Semi skilled worker	5	8.33
	f) Unskilled worker	2	3.33
	g) Unemployed	13	21.67
5.	*Income*		
	a) Less than Rs.5,000/-	34	56.67
	b) Rs.5001/- to Rs.10,000/-	17	28.33
	c) Rs.10001/- to Rs.20,000/-	6	10
	d) Rs.20001/- to Rs.30,000/-	1	1.67
	e) Rs.30001/- to Rs.40,000/-	2	3.33
6.	*Diet*		
	a) Vegetarian	9	15
	b) Non vegetarian	21	35
	c) Lacto-ovo-vegetarian	30	50

Table 2: Frequency and Percentage Distribution of Knowledge on Diet Therapy among Patients with Tuberculosis in Both Pre-test and Post-test   N=60

S. No	Knowledge Scores	Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Inadequate Knowledge (0–50%)	56	93.33	7	11.66
2.	Moderate Knowledge (51–75%)	4	6.67	43	71.67
3.	Adequate Knowledge (> 75%)	–	–	10	16.67

The data presented in the above tables 1 and 2; that in pre-test, majority 56 (93.33%) of participants had Inadequate knowledge, while 4 (6.67%) had moderate knowledge and no participants had adequate knowledge regarding tuberculosis Diet Therapy. In the Post-test majority 43 (71.67%) Participants had Moderate knowledge, 10 (16.67%) had adequate knowledge and 7 (11.66%) Participants had inadequate knowledge.

The figure 1 shows that obtained Mean ($\bar{x}$) knowledge score regarding Diet Therapy among Patients with Tuberculosis was found to be ($\bar{x}$ = 15.98 ± 4.88) in Pre-test, and ($\bar{x}$ = 31.15 ± 4.65) in Post-test, which shows a significant difference between pre-test and post-test knowledge scores on Diet Therapy.

The figure 2 describes the obtained Mean knowledge score on Diet Therapy among patient with Tuberculosis in Post-test ($\bar{x}$ = 31.15 ± 4.65) was higher than the pre-test ($\bar{x}$ = 15.98 ± 4.88) showing improvement of mean ($\bar{x}$ = 15.98 ± 0.23). The obtained 't' value was 3.083 (p < 0.05) which is greater than the table value.

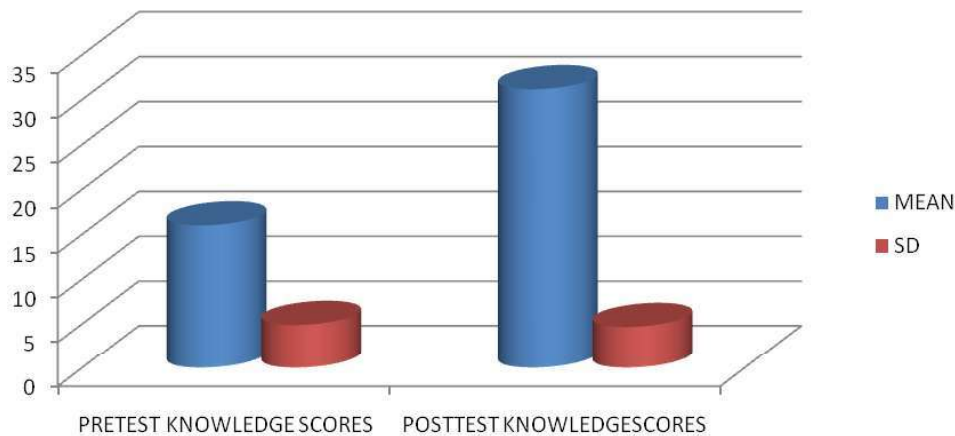It states that there was significant difference between post-test and pre-test knowledge

Fig. 1: Mean ($\bar{x}$) and standard deviation (SD) of Pre-test and Post-test Knowledge score regarding diet
therapy among Patients with Tuberculosis.   N=60
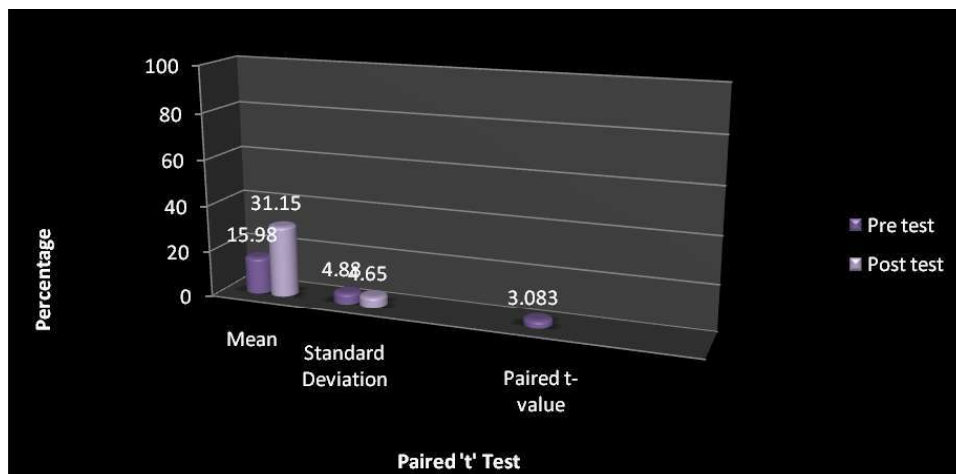

Fig 2: Paired 't' value of knowledge on Diet Therapy among Patients with Tuberculosis in both Pre-test
and Post-test. (N=60)

scores regarding Diet Therapy among patient
with Tuberculosis, indicating that the education
Programme on Diet Therapy was Effective. Hence
the researcher accepted the research Hypothesis
(H_1) and rejected the null Hypothesis (H_{01}).

Discussion

Active TB, like other infectious diseases, is likely
to increase energy requirement, Studies show that
subjects who receive food supplements during
TB treatment tend to gain more weight compared
with those not receiving food supplements, but
the increase in weight gain has not been associated
with improvement of TB treatment outcomes
[17–21] Nutritional therapy aims to reduce the
risk of death, shorten hospitalization and facilitate
rehabilitation and a full recovery [17–19]. Because
under nutrition increases the risk of progression

from TB infection to active TB disease, food
insecurity and poor general nutritional status in the
population are important contributors to the global
burden of TB disease [13–16].

The study results revealed that, majority of
participants 21 (35%) were between the age group
of 37–45 years, as per Gender is concerned majority
were 31 (51.67%) male patients, 14 (23.33%)
participants were with High school education,
18 (30%) were semi professionals, 34 (56.67%)
were earning <5,000/- per month, 30 (50%) were
lacto-ovo-vegetarian. The study is concurrent
with findings of present study stating, 75% of all
TB cases are among people who are 15–54 years of
age and in their prime working years [20]. TB is a
major cause of poverty aggravation because people
with TB often face the double burden of reduced
income and increased expenses: they are often too
sick to work and their families have to pay expenses

associated with treatment [21].

In order to meet the objectives a pre-test was conducted among Tuberculosis patients on Diet Therapy. The finding revealed that out of 60 Tuberculosis patients, majority of the participants 56, (93.33%) had Inadequate knowledge, 4 (6.67%) had Moderate Knowledge, and no participant had Adequate knowledge. The overall Mean ($\bar{x}$ value obtained for the existing level of knowledge in the pre-test regarding Diet Therapy was $\bar{x}$ =15.98 with Standard deviation (SD) = 4.88.

In regard to post-test out of 60 Tuberculosis patients, majority of 43 (71.67%) participants had Moderate knowledge, 10 (16.67%) participants had adequate knowledge, and 7 (11.66%) participants had Inadequate knowledge. The overall Mean ($\bar{x}$) value obtained for the existing level of knowledge in the post-test regarding Diet Therapy was ($\bar{x}$) =31.15 with Standard deviation (SD) = 4.65.

There was significance association between the level of knowledge of Tuberculosis patients with their Age, were the chi-square (χ^2) value 14.776 which is more than table value at p>0.05 level of significance; Income was significant were the chi-square (χ^2) value 17.0 which is more than table value at p > 0.05 level of significance; Diet was significant were the chi-square (χ^2) value 18.26 which is more than table value at p > 0.05 level of significance. Hence, the researcher accepted the Research hypothesis H_2 and rejected the null hypothesis H_{02}.

There was no significant association between the knowledge levels of Tuberculosis patients and selected variables like Gender (χ^2) =2.044), Education (χ^2) =14.48), Occupation (χ^2) =10.493) at p < 0.05 level of significance. Hence, the researcher rejected the research hypothesis H_2 and accepted the Null hypothesis H_{02}.

The study finding supported the present study by stating, majority of patients had evidenced chronic severe under nutrition at the time of diagnosis, which persisted even after successful treatment. The study concluded that there is a need for nutritional support during treatment for pulmonary Tuberculosis patients [5].

Conclusion

The study concluded that there is a significant improvement in knowledge scores after Nurse led patient education among tuberculosis patients on Diet therapy and there was significant association between Age, Income and Diet with their post educational scores. This may help the individual to consume nutritious diet during the phase of illness that may enhance their immunity and fight against the microbes and complications, eventually help to have quality of life.

Conflict of Interest: NIL

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