

Effect of educational intervention on knowledge and reported practices regarding drug regimen among patients with Tuberculosis attending selected DOTS centres of Mumbai.

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Abstract: Tuberculosis is as old as the mankind. Tuberculosis (TB) is an infectious disease caused by *Mycobacterium Tuberculosis*, which is transmitted through the air or by ingesting infected milk or meat (bovine TB) and it is both preventable and curable.¹ Tuberculosis is one of the major diseases that cause enormous public health and economic crisis in low income countries. It has been estimated that maximum number of tuberculosis patients in the world are in India and the rate of treatment failure is alarming.² The objective of the study is to assess the knowledge and reported practices regarding drug regimen among patients with Tuberculosis before and after intervention in Group I and Group II. Descriptive Evaluative approach with quasi experimental two group pre test post test design was adopted with framework of Imogene King's Goal Attainment Theory. A Structured Interview Schedule was used to collect the demographic data and to assess knowledge and reported practices by non probability purposive sampling method. Pilot study followed by actual data collection was done and analyzed using descriptive and inferential statistics. The findings revealed that an educational intervention with reinforcement in the form calendar is effective in improving the knowledge and reported practices regarding drug regimen and have implications for nursing practice, nursing education, administration and research. The implementation of intervention with different methods of reinforcement can help in achieving better results and it increases the medication adherence. The findings of the present study become highly relevant and very significant in planning different strategies in tuberculosis control programs.

Keywords: Effect; Educational Intervention; Knowledge; Reported Practices; Tuberculosis Drug Regimen; Patients diagnosed with tuberculosis.

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I. Introduction

Tuberculosis is as old as the mankind. Tuberculosis (TB) is an infectious disease caused by *Mycobacterium Tuberculosis*, which is transmitted through the air or by ingesting infected milk or meat (bovine TB) and it is both preventable and curable.¹ Tuberculosis is one of the major diseases that cause enormous public health and economic crisis in low income countries. It has been estimated that maximum number of tuberculosis patients in the world are in India and the rate of treatment failure is alarming.² The therapeutic regimens given under DOTS as recommended by WHO have been shown to be highly effective for both preventing and treating TB but poor adherence to antituberculosis medication is a major barrier to its global control.³

The World Health Organization (WHO) estimates that almost 9.6 million new patients develop TB each year, and that 1.5 million people died from TB globally in 2014.⁴ TB has a huge impact on patients, families and their communities through spending on diagnosis, treatment, transport to and from the health facilities and time lost from work. However, if TB is detected early and fully treated, people with the disease quickly become non-infectious and are eventually cured.⁵ So WHO has declared tuberculosis as global emergency with operational targets of least 85% cure rates of diagnosed cases and detection of least 70% estimated cases.⁶ The World Health Organization (WHO) has estimated that about 9 billion people worldwide are infected with *Mycobacterium tuberculosis* and each year 1.5 million people die of Tuberculosis (TB). India is the country with the highest burden of TB with WHO statistics for 2013 giving an estimated incidence figure of 2.6 million.⁷

Many studies revealed that lack of income over time along with daily accumulating costs, other struggles and lack of knowledge regarding the importance of adherence to treatment caused interruption in the treatment of tuberculosis during the later stages of treatment.⁸ Studies also reported that poor communication between health care personnel, poorly applied Directly Observed Treatment Short-Course therapy, lack of strategy to search for defaulting patients, limited supervision of treatment units, feeling ashamed to have

tuberculosis and presence of other illness are the major factors that determine the treatment outcome in tuberculosis patients.⁹ Further poor adherence to treatment leads to emergence of multi-drug-resistant bacilli, so ensuring compliance is of utmost importance to control TB and halt the MDRTB epidemic at its beginning. So there is continuing need to sustain and further intensify the actions being undertaken to reduce default.¹⁰

II. Materials and Methods

Study Design: - A quasi experimental with two group pretest posttest design was used.

Setting: - The study was conducted in selected DOTS centres of Mumbai.

Sample size: - The sample size selected for the study is 60.

Sampling: - In this study non probability purposive sampling technique was adopted to select the subjects diagnosed with TB under category I in the continuation phase.

Data collection tool: - The content validity of the tools was obtained from 16 experts in the field of nursing and medicine. The reliability of the knowledge item r is 0.81 and reported practice item r is 0.85. Structured knowledge questionnaire was used to assess the knowledge regarding drug regimen. Section A: It includes 10 items to assess the socio demographic data such as age, gender, marital status, socio demographic data (Kuppuswamy scale), type of family, history of TB diagnosed in family members, time taken to reach DOTS centre, history of smoking and alcohol intake. Section B- It consisted of 20 items divided into 4 areas. Among that, 6 items were prepared under phases of DOTS therapy, medications in DOTS therapy, compliance to therapy each and two items for diet during therapy. All the items were multiple choice questions, which had 4 alternative responses with only 1 option as correct response. A structured reported practice questionnaire was developed after reviewing the review of literature to assess the reported practice regarding drug regimen. It consisted of 10 items; each question has 3 options i.e. Never, Sometimes, Always. Question numbers 1-6 were scored positive and question number 7-10 had reverse scoring.

Data Collection process:- The researcher established good rapport with the patients who were attending selected DOTS centres of Mumbai and took consent from each patient to participate in this study and collected the demographic data from the patients from both Group I & Group II by using structured interview questionnaire to assess the knowledge and reported practices regarding drug regimen. Data was collected and observed from 60 patients, out of which 30 patients were in the Group I and 30 patients were in Group II. Immediately after pre-test, only educational intervention regarding drug regimen was given for the patients in the Group I and educational intervention with reinforcement in the form of calendar was given for Group II. Evaluation of the educational intervention was done by conducting post-test. Post test for knowledge was conducted after 7 days whereas reported practices were conducted after 25-30 days.

III. Results

Majority of the participants were males (50%) of patients in the age group of 15-29 years in both the groups. Majority of the patients 35% were studied up to Primary School and only 5.0% were illiterate in both the groups. About 36.37% were in service whereas 30.0% were housewife. Majority of the patients (50.0%) were having family income of 5000-10000 and 55% were belongs to Nuclear Family. Out 60 sample 36.7% had family history of TB. About 30.0% of sample had a history of alcohol consumption and 71.7% had history of smoking.

Section I: - Comparison of knowledge scores regarding drug regimen among Group I and Group II.

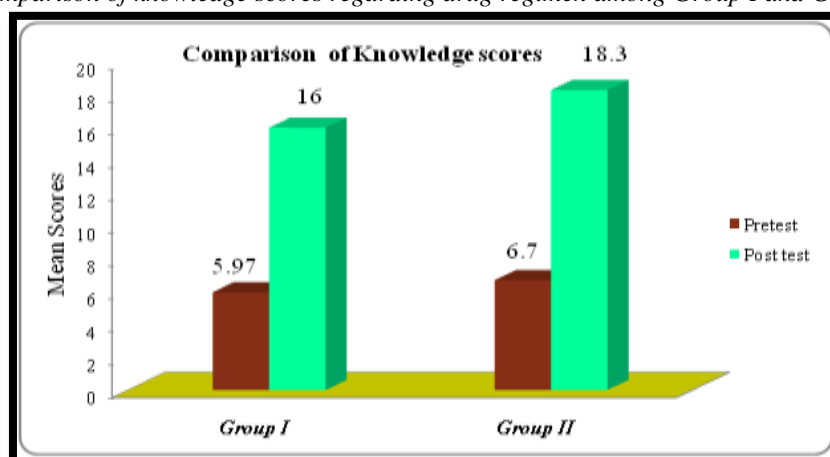


Figure 1:- The significant difference in the mean knowledge scores of pre test and post test in Group II as compared to Group I.

Section II: Comparison of reported practice scores among Group I and Group II regarding drug regimen

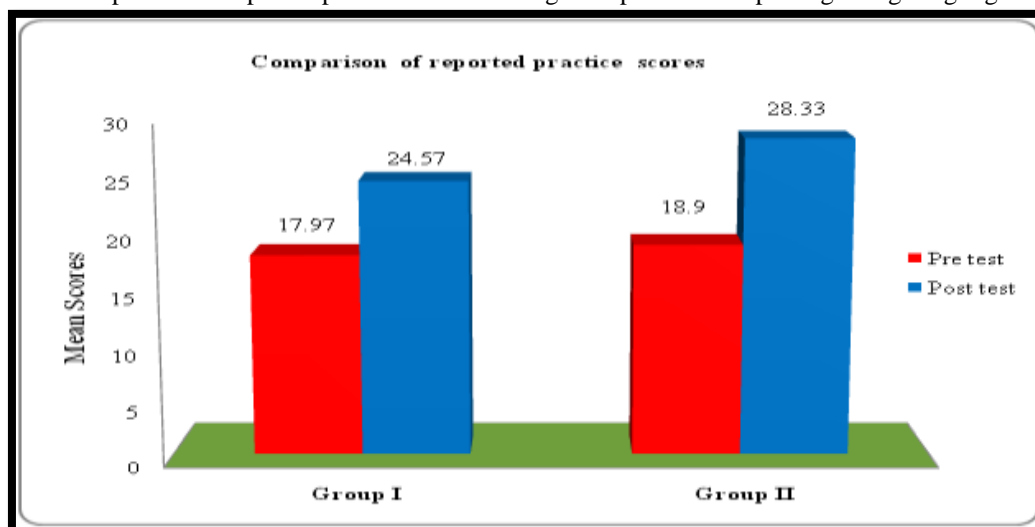


Figure 2. The significant difference in the mean practice scores of pre test and post test in Group II as compared to Group I.

The above figures depicts that there was a significant difference in the mean knowledge scores (10.03) of pre test and post test of the Group I whereas the difference of scores in the Group II was 11.6. The reported practice mean scores (6.60) of pre test and post test of the Group I whereas the difference of scores in the Group II was 9.43. It is inferred that the educational intervention with reinforcement had an effect on knowledge and reported practice regarding drug regimen as compared to only educational intervention.

IV. Discussion

There was a significant improvement in mean knowledge score regarding drug regimen in post tests in both the groups but the effect of educational intervention with reinforcement in the form of calendar group has increased knowledge as compared to other group. This is in comparison to study by Amusura and Edding⁴¹ where an increase of knowledge and positive change in attitude regarding drug regimen in the group of patients with TB education as compared to patients without education.

The results of the present study have shown that reported practice regarding drug regimen has improved through educational intervention with reinforcement in the form of calendar. Similar improvements in knowledge and practices regarding drug regimen have been reported in 2012 by Gopu, Rao and Vadivet⁴⁹.

V. Conclusion

The findings of the study showed that there was a highly significant difference between the pre test and post test knowledge and practice scores regarding drug regimen among patients diagnosed with tuberculosis. Hence the educational intervention with reinforcement in the form of calendar was found to be effective in improving the knowledge as well as practices regarding drug regimen patients diagnosed with tuberculosis who participated in the study. The implementation of intervention with different methods of reinforcement can help in achieving better results and it increases the medication adherence. The findings of the present study become highly relevant and very significant in planning different strategies in tuberculosis control programs.

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