A Study To Assess Effectiveness of Structured Teaching Programme On Knowledge Regarding Prevention Of Tuberculosis Among B. Sc. Nursing Students Of Selected Nursing Colleges At Jodhpur, Rajasthan

Likhamaram Choudhary

GNMTC Govt. Hospital, Barmer, Rajastan, India

Abstract-

At the global level the highest tuberculosis infected persons live in India. The rate of infection is so high. In our country communicable disease are most prevalent among the population. India is one of the largest and most important developing country of world, in this country, public health emphasizes more on communicable disease, malnutrition and reproductive health care. Tuberculosis is one of most common infectious disease known worldwide. it is the seventh leading cause of global disability. Tuberculosis is transmitted by aerial route from an infected patient to a healthy subject and is facilitated when the receiver is immunologically sensitive. Even when the risk of transmission is low, measures should be taken to prevent emission of bacilli, their suspension in air and inhalation by sensitive subjects, especially immunodeficient subjects. Surveillance of hospital staff and preventive antituberculosis regimens are generally recommended, but often quite controversial.

The most important and effective means of preventing new infections is to eliminate the sources of transmission. Therefore, the first priority of TB control programs is to ensure that active disease is diagnosed as early as possible (a process called case-finding) and that patients are treated with an effective antibiotic regimen until they are cured (which is called case-holding). A TB control program should not embark on other activities such as screening until it has achieved the benchmark of 90% successful completion of therapy for all patients with active disease. Prevention of transmission requires prompt respiratory isolation of people with suspected pulmonary or laryngeal TB..

Introduction-

Tuberculosis is specific infectious disease caused **Mycobacterium tuberculosis**. The disease primarily affects lungs and causes pulmonary tuberculosis (PTB). It can also affect intestine, meninges, bone and joints, lymph gland, skin and other tissues of the body. The disease is usually chronic with cardinal features like persistent cough with or without expectoration, intermittent fever, loss of appitite,weight loss, chest pain and hemoptysis. TB has coevolve with humans for many thousand of years, and perhaps for several million years. The oldest known human remains showing signs of tuberculosis infection are 9,000 years old.

Assess: To determine the value, evaluate in this study assess. Refers to statistical measurement of knowledge of students of B.Sc. Nursing regarding prevention of tuberculosis by structured questionnaire.

Effectiveness: Effectiveness means checking for the desire effect.   Intended effect or an outcome.in this study, effectiveness refers to significant gain by knowledge scores after the administration of structured teaching in a selected group of student of B.Sc. Nursing

Structured teaching programme: It "means" giving systematic information to the people that may enrich their knowledge.in the study, structured teaching program refers to the systematic plan of teaching and learning process between the B.Sc. nursing student and investigator using various teaching method on prevention of tuberculosis.

Knowledge: Something that is or may be known information in this study knowledge refers to correct response of B.Sc. nursing student in this study proactive mean prevention of tuberculosis among B.Sc. nursing students.

Prevention: its goal is to protect, promote and maintain health and well-being and to prevent disease, disability and death.

Need For Study:

The tuberculosis is worldwide problem of 21th century. The World Health Organization (WHO) TB statistics for India for 2016 give an estimated incidence figure of 2.79 million cases of TB for India. The TB incidence is the number of new cases of active TB disease during a certain time period (usually a year).

Continuing the fight to eradicate tuberculosis from India, which has 24 per cent of the world's total number of TB cases, the Indian Society for Clinical Research or ISCR called for a comprehensive research in multi-drug resistant TB. Reports show that the disease kills 480,000 to 500,000 Indians every year, making it a big challenge for India to achieve its goal of being TB free by 2025. According to the World Health Organization, it is a the world's top infectious disease killer and 5000 people die because of it every day. It ranks among the top 10 global causes of death, and in 2015 alone, a million children below the age of 14 years worldwide were diagnosed with

TB and 1,70,000 of them died. 10-15 percent of TB patients are under the age of 14 year.

This study was carried out to characterize *Mycobacterium tuberculosis* population in Ghatampur, Kanpur, North India, by spoligotyping and Mycobacterial Interspersed Repetitive Units-Variable Number of Tandem Repeats (MIRU-VNTRs) typing. A total of 335 isolates were genotyped by spoligotyping and Central Asian (CAS) sub-lineage was the most prevalent, comprising 59.1% of all isolates. Other lineages were: East-African Indian (EAI) (19.10%), T (5.07%), Beijing (3.28%), Manu (2.98%), X (2.68%), S (0.89%), H3 (0.59%), Ural (0.59%), LAM 9 (0.29%) and unknown (5.37%). This data was compared with 8444 clinical isolates from other parts of India and neighboring countries. Thanks to interrogation of the SITVIT2 database, which shows that China is unique in having a predominance of Beijing lineage; Iran in having an almost equal proportion of Ural and CAS lineages; while the rest of the Middle-East and Indian.

Estimates of TB burden (2016)	Number	Rate per 100,000 population
Incidence of TB cases (includes HIV + TB)	2.790 million	211
Incidence (HIV+TB only)	87,000	6.6
Incidence (MDR/RR-TB))	147,000	11
Mortality (excludes HIV+TB)	423,000	32
Mortality (HIV+TB only)	12,000	0.92
Estimated burden of TB 2016		

The previous research study and data of tuberculosis infection, morbidity rate and mortality rate is so high then other developed country so the STP on prevention of tuberculosis study is improve knowledge of the B.Sc. nursing students of selected nursing colleges at jodhpur.

Aim Of The Study:

The aim of study was to identify improve knowledge regarding prevention of tuberculosis among B.Sc. Nursing students of selected nursing collages at Jodhpur; Rajasthan

Objectives Of The Study:

1 . To assess the existing knowledge regarding prevention of tuberculosis.

2. To assess the post- test knowledge regarding prevention of tuberculosis.

3. To find out the association of knowledge score with selected demographic variables.

Research Hypothesis:

❖ **H₁-** There will be significant association between pre-test knowledge score and selected demographical at variable of $p \leq 0.05$.

❖ **H₂-**There will be significant difference in pre-test knowledge score of B.Sc. Nursing student regarding prevention of Tuberculosis at the level of $p \leq 0.05$.

In this study review of literature was divided into -3 parts:

1. Literature related to knowledge regarding tuberculosis.

2. Review of literature related to prevention of Tuberculosis.

3. Literature related to teaching intervention regarding prevention of tuberculosis.

Conceptual framework: The Conceptual framework for the study is based on modified Imogene king's Goal attainment modal.

Methodology:

Research Design: The true research design refers to the plan of organization a scientific investigation.it is concerned with an overall framework for conducting the study.

Sample size and sampling: The investigator identified all B.Sc. nursing students of shree lal bhadur shastri college of Nursing, Jodhpur sample size is 60 student of B.Sc. Nursing.

Variables:

❖ **Dependent variable:** Knowledge of B.Sc. Nursing student.

❖ **Independent variable:** In this study the independent variable is structured teaching programme.

Description of the instrument:

The instrument was oriented in two parts:-

Part - I: Information regarding socio-demographic variables.

Part - II: Information on knowledge regarding prevention of tuberculosis among B.Sc. Nursing students of selected nursing collages at Jodhpur, Rajasthan.

It consist of a structured questionnaire containing 30 objective type of multiple choice questions and observation checklist containing 5 items.

Validation of the instrument:

Researcher developed a structured questionnaire and observation checklist and then the content validity of the instrument was taken from the experts who are Ph. D in nursing specialty and physician experts. The instrument was further modified as per the recommendations of the experts and guidance was sought for the preparation of the self-instructional module on knowledge regarding prevention of tuberculosis among B.Sc. Nursing students of selected nursing collages at Jodhpur, Rajasthan.

Reliability of the instruments:

The reliability of the tool is defined as the extent to which the instrument fills the same result on repeated measures. The tool was tested for reliability on 6 respondents of B Sc. Nursing students of SLBS College of nursing Jodhpur under pilot study. Their liability was calculated by using split half method. The reliably of the tool was calculated by using karl persons product moment correlation formula.

The reliability coefficient of structured knowledge questionnaire was 0.78 which showed that the tool was reliable.

Development of the self –instructional module:

The draft of the self- instructional module on knowledge regarding prevention of tuberculosis among B.Sc. Nursing students of selected nursing collages of the research supervisor based on the objective, review of literature and to the level of understanding of B.Sc. Nursing and then contents of the self-instructional module where modified as per the opinions and instructions given by the experts in the physician and nursing field.

Ethical considerations: The researcher followed all the institutional ethical committee guidelines to conduct the research study. First

of all, before pilot study and main study certificate of ethical approval was obtained from the institutional ethical committee of Tantia University. Then written permission was obtained from 3 principals of nursing colleges of Jodhpur Rajasthan. Oral and written permission was taken from 60 B. sc. Nursing students including in the main study and in the form of informed consents.

Method of data collection:

After completion of pilot study, result was prepared and some necessary modifications were done in the tool and self-instructional module. The feasibility of conducting the research study was ensured. Data collection was done from 5th to 24th October 2017.

Plan for statistical analysis: Data was collected and observed from 60 B. Sc. Nursing students of selected nursing colleges of Jodhpur, Rajasthan. Collected data was summarized and tabulated by utilizing statistics which included mean, percentage, standard deviation, and included students independent 't' test , Chi- square test etc.

Data Analysis and Interpretation:

Section I: Distribution of subjects according to socio demographic variable:

In the socio demographic variables there is statistical significant difference between variables. It was tested by Chi- square test.

Section II: To identify the knowledge regarding prevention of tuberculosis among B.Sc. Nursing students of selected nursing collages at Jodhpur, Rajasthan.

Table number 1: Analysis of Pre-test knowledge of the B. Sc. Nursing students regarding tuberculosis and its prevention (frequency and percentage distribution)

Knowledge area	Total score	Mean	SD	Mean percentage
Tuberculosis	7	5.40	1.09	77.14%
Diagnosis and treatment available for tuberculosis	11	7.78	2.59	70.76%
Prevention of tuberculosis	12	7.13	2.34	59.44%
Total	**30**	**20.31**	**4.56**	**67.70%**

Conclusion:

After the data analysis, this study gives to the following conclusion:

The B.Sc. Nursing students have some improvement in knowledge regarding prevention of tuberculosis. They require further education and continuously update to enhance their knowledge regarding prevention of tuberculosis.

There was highly significant increase in the knowledge of the subject after introduction of structured 't' test computed between mean pre-test and post-test knowledge score was 7.35, which indicate a highly significant difference in the score in most of the areas.

Thus, it concluded that the structured teaching programme on tuberculosis and its preventionis effective in improvement of knowledge. most of the demographic variable

do not show a significant association with the knowledge of the B.Sc. Nursing students regarding prevention of Tuberculosis. Hence, on the basis of above findings, it can be concluded that the written material prepared by the investigator in the form of structured teaching programme helped the B.Sc. Nursing students regarding prevention of tuberculosis to improve their knowledge.

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Conflict of Interest: None   **Source of Support: Nil**

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