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Original Research Article

Impact of sensitization workshop on knowledge regarding tuberculosis among graduate students of rural area of Bareilly District

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Abstract

Background: Tuberculosis (TB) is a major public health concern worldwide. It has been seen that TB control efforts worldwide are although impressive, but not sufficient. Information, Education, and Communication (IEC) are an integral and important strategy of the program to create awareness among general public.
Objective: The study was conducted to assess the impact of sensitization workshop regarding tuberculosis among graduate students of rural area of Bareilly district.
Material & Methods: A cross-sectional study was conducted from March 2017 to July 2017 by interviewing 146 students in a college in rural area of Bareilly district, U.P after multistage sampling. A pre-designed and pre-tested questionnaire was used to collect the pre-workshop and post-workshop data. The data obtained was compiled and statistical analysis was done using SPSS version 23.
Results: A paired-samples t-test was conducted to analyse the impact of sensitization workshop among the students. The mean scores for knowledge regarding TB symptoms pre-workshop was 3.20 ± 1.90 and post-workshop was 5.68 ± 1.58.
Conclusion: Knowledge about various aspects of TB was significantly improved after students attended a training workshop. Efforts should be geared towards education in terms of training and retraining regarding TB, as it is known that IEC activities can create awareness among students, thus eradicating the stigma and fear associated with it.
Keywords: Tuberculosis, knowledge, rural, sensitization, impact.

1. Introduction

Tuberculosis (TB) is a major public health concern worldwide. The global burden of tuberculosis remains alarming despite the World Health Organization (WHO) and various national programs efforts. Tuberculosis affects the most productive age group. Of all tuberculosis cases in India 2/3rd are male and 70% of all patients are aged between 15 and 54 years [1]. It has been acknowledged though that TB control efforts worldwide, although impressive are not sufficient. The global TB targets – detecting 70% of TB cases and successfully treating 85% of them and halving the prevalence and mortality of the disease by 2015 as part of the Millennium Development Goals (MDGs) – are likely to be met only if current efforts are intensified.

WHO recognizes the importance of tuberculosis-related knowledge, attitude and practice surveys in advocacy, communication, and social mobilization strategy planning. Despite good Directly Observed Treatment-Short Course (DOTS) coverage, India still accounts for about one-third of the world's TB burden and is one of the 22 high-burden countries identified by WHO [2]. Information, Education, and Communication (IEC) are an integral and important strategy of the program to create awareness among public, health care providers, and policy makers.

Hence, the present study was conducted to assess the impact of sensitization workshop on knowledge regarding tuberculosis among graduate students of rural area of Bareilly district.

2. Material & Methods

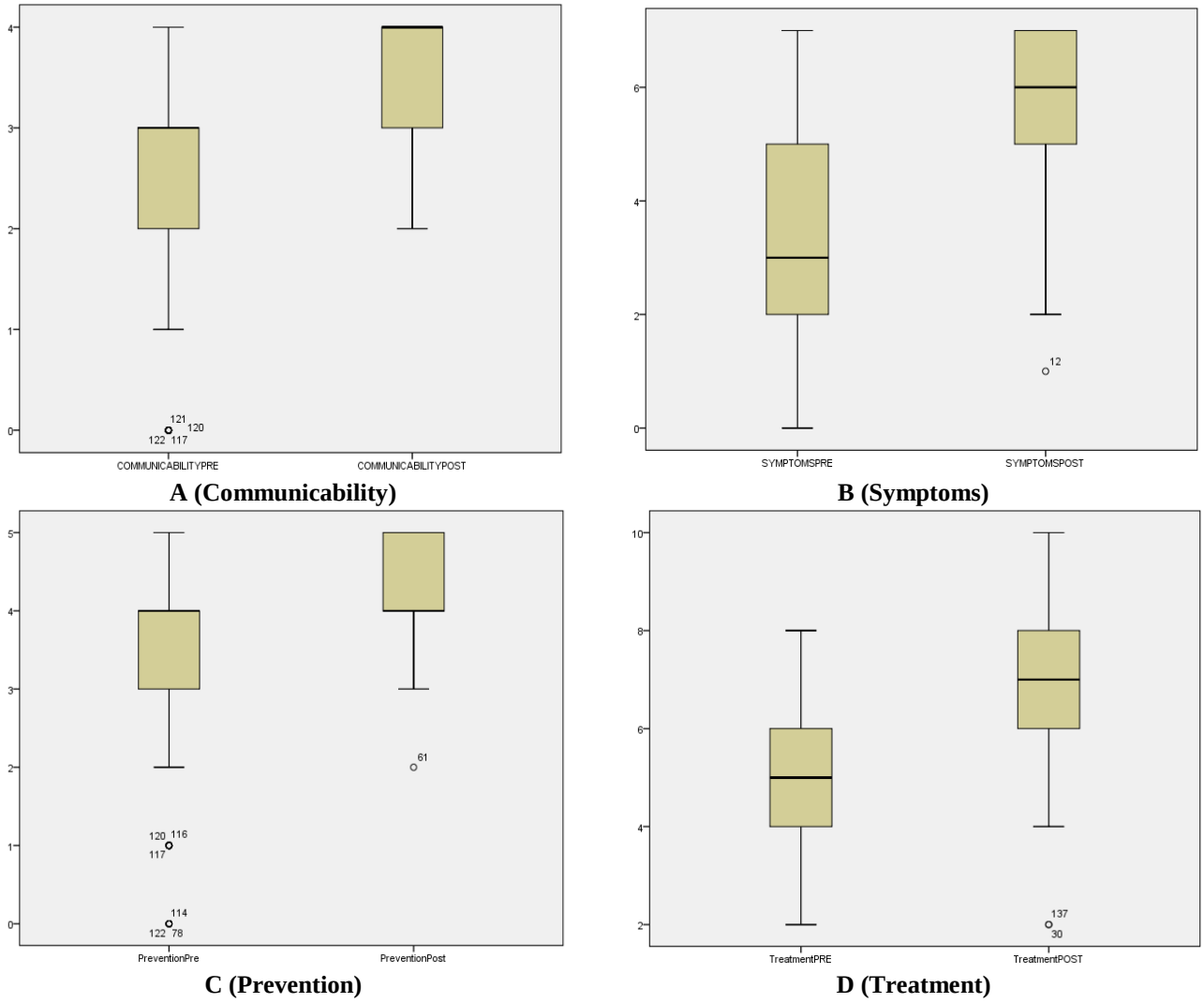
This pre and post-test interventional study was conducted from March 2017 to July 2017. A total 292 graduate students studying in college in rural area of Bareilly, U.P, India who were willing to participate in the study were included, after multistage random sampling.

To represent the population, an ideal sample was estimated using the following equation: $4pq/L^2$, p is the prevalence of TB awareness (p= 55%) [3]. With allowable error (L) of 15% of P and a design effect of 2. Thus the estimated sample had 292 participants.

The area located under a Gram Panchayat was considered as Rural Area in District Bareilly. To perform the study, multi-stage random sampling method was used for all study units until the required sample size was attained. There are a total of 6 Tehsil's in Bareilly District. Further, there are 2 Blocks in each Tehsil. Multistage random sampling was applied at each stage starting from level of tehsil until the level of selection of a college which is the last unit of sampling by taking 10% of sampling unit at each stage. A pre-designed and pre-tested questionnaire was used to collect the pre-workshop and post-workshop data. The language of the questionnaire was English. The questions covered knowledge of students about diagnosis, prevention and treatment aspects of TB. The permission for the study was obtained by the ethical committee of the institution to perform a study IEC/09/2017. The sensitization workshop for one day was conducted on **24th March, 2017**(World TB Day) in the Lecture Hall of College, which consisted of series of lectures and audio-visual presentations followed by question-answer session covering all aspects of tuberculosis mentioned in questionnaire. Post-workshop data was collected by same set of students in a period of one week from **17th July, 2017 to 23rd July, 2017**. The data obtained was compiled and statistical analysis was done using SPSS version 23. Results were analyzed statistically by applying t- test. Statistical significance was kept at confidence interval of 95%.

3. Results

Figure 1: Box plot depicting statistical distribution of scores in various categories of knowledge regarding TB



A (Communicability) **B (Symptoms)**

C (Prevention) **D (Treatment)**

Table 1: Statistical data of scores obtained by students regarding knowledge of tuberculosis

	Communicability-Pre	Communicability-Post	Symptoms-Pre	Symptoms-Post	Prevention-Pre	Prevention-Post	Treatment-Pre	Treatment-Post
Mean	2.35	3.47	3.21	5.68	3.42	4.16	5.25	7.03
N	292	292	292	292	292	292	292	292
Standard Deviation	1.11	0.61	1.91	1.58	1.18	0.62	1.54	1.35
Maximum	4	4	7	7	5	5	8	10
Minimum	0	2	0	1	0	2	2	2
Median	3	4	3	6	4	4	5	7

Table 1 and figure 1 indicates that mean score and median for knowledge regarding communicability of TB before imparting health education was (2.35 ± 1.11) and 3, while after imparting health education it was (3.47 ± 0.61) and 4 respectively. In addition to this, the mean score and median for knowledge regarding symptoms of TB before workshop was (3.21 ± 1.91) and 3, while after post workshop session it was (5.68 ± 1.58) and 6 respectively. Furthermore, the mean score and median for knowledge regarding prevention of TB before health education was (3.42 ± 1.18) and 4, while after the awareness campaign it was (4.16 ± 0.62) and 4 respectively. The mean score and median for knowledge regarding treatment of TB before health education was (5.25 ± 1.54) and 5, while after the awareness campaign it was (7.03 ± 1.35) and 7 respectively.

Table 2: Statistical analysis of scores in various categories of knowledge regarding TB

Factors Assessed	Mean Difference	Standard Error	95% Confidence Interval of the Difference		t	df	P- value
			Lower	Upper			
Communicability Pre Communicability Post	1.120	0.074	0.9744	1.2656	15.11	582	< .0001
Symptoms Pre Symptoms Post	2.47	0.145	2.18	2.75	17.02	582	< .0001
Prevention Pre Prevention Post	0.74	0.078	0.5868	0.8932	9.486	582	< .0001
Treatment Pre Treatment Post	1.78	0.12	1.544	2.01	14.85	582	< .0001

Table 2 suggests that on applying Z-test for mean between two samples (pre & post health education) to compare knowledge regarding tuberculosis communicability, symptoms, prevention and treatment among graduate students before and after the sensitization workshop on tuberculosis, mean difference for communicability was 1.120 and this difference was statistically significant even at 99.9% C.I. ($p<0.01$) Similarly on applying Z-test for mean between two samples (pre & post health education) mean difference for symptoms pre & post was 2.47 and this difference was statistically significant even at 99.9% C.I.($p< 0.01$) Furthermore, Z-test for mean between two samples mean difference for prevention pre & post was 0.74 and this difference was statistically significant even at 99.9% C.I. Lastly, Z-test for mean between two samples (pre & post health education) mean difference for treatment was 1.78 and this difference was statistically significant even at 99.9% C.I. ($p< 0.01$)

4. Discussion

Important research has been done to assess the knowledge, attitudes, and practices with regard to tuberculosis, among different sections of the population in India. In a study among a north Indian urban community only 2.3% knew that TB was caused by a germ. Only 12.6% knew that the duration of treatment was six to eight months, and 1.7% knew about the preventive role of Bacillus Calmette-Guerin (BCG). [4] In the same north Indian community the impact of the Information Education Communication (IEC) campaign undertaken by the Government was studied. The core message regarding symptoms, diagnosis, treatment center, and free treatment was recalled correctly by 14.3, 44.5, 65.4, and 89.2%, respectively.[5] In another simple study in South India the impact of health education on the knowledge about tuberculosis, two years after the intervention, was studied. There was an overall increase in knowledge, between 18 and 58%, in various fields, at the end of two years. [6] This clearly showed that simple educational interventions could lead to significant changes in knowledge among the population.

Our findings are also similar to those of several other investigators who have conducted surveys among graduate students.

The present study showed statistically significant improvement in participant's knowledge of tuberculosis from pre-test to post-test. Similarly, study carried out in public health workers and DOTS workers by PS *et al* [7] and among high school children by Gopichandran *et al*[8] found statistically significant improvement in knowledge regarding tuberculosis from pre-test to post-test.

5. Conclusion

Our study corroborates these findings in the sense that an effort is needed to improve student's knowledge about tuberculosis. The goal of national health policy 2002 was to increase the awareness of T.B. in both educated and uneducated people. In 1959 government of India, with the help of WHO, establish the National T.B. Institute (NTI) in Bangalore to develop a national T.B. control programme (NTP), with the aim of establishing prompt awareness, diagnosis and ambulatory treatment which were integrated into general health services.

The study also showed that a simple educational intervention such as a audio-visual presentation, role play and lecture significantly changed the way the students perceived the disease. There was a statistically significant change in the level of knowledge in domains such as communicability, symptoms, prevention and treatment of tuberculosis. The study clearly demonstrated the impact of a simple, educational intervention, in the form of health education lecture, on the knowledge and awareness about tuberculosis among students. The educational module could potentially be replicated in all schools and colleges in tuberculosis-endemic countries. Students could be empowered to be the flag bearers in the fight against tuberculosis.

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