

Original Article

Effectiveness of NTEP training program in the improvement of knowledge of medical interns

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ABSTRACT

Objectives: Compulsory Residential Medical Interns (CRMI) is being a part of health-care professionals they have a role and responsibilities for counseling the patients on tuberculosis (TB). The objective of the study is to assess the awareness about National Tuberculosis Elimination Programme (NTEP) among CRMI and determine the effectiveness of the training program in the improvement of knowledge of CRMI.

Material and Methods: It was a pre-test and post-test design conducted among CRMI posted in the Department of Community medicine, Sri Manakula Vinayagar Medical College and Hospital in Villupuram district of Tamil Nadu. A total of 600 CRMIs from 2014 to 2022 were trained in batches. The training program was conducted as per NTEP guidelines released by Central TB division guidelines. At the end of the session, feedback was obtained. Pre- and post-test data were entered and analyzed in Epi_Info software. The paired test was used to test the statistical significance.

Results: It was found 57.8% improvement in the knowledge of the participants about TB after the training program. In the analysis of feedback, the consensus score for all the responses was above 83%. Manual content analysis of the open-ended feedback was done.

Conclusion: Health education dissemination strategies (e.g. campaign to end TB) on TB needs to be continuously done at the community and health facility level by trained CRMI.

Keywords: National tuberculosis elimination programme, Compulsory residential medical interns, Tuberculosis, Training

INTRODUCTION

Tuberculosis (TB) has existed for millennia and remains a major global health problem.^[1,2] Current National Tuberculosis Elimination Programme (NTEP)^[3] has reinforced that training of medical staffs is mandatory for community advocacy, stigma mitigation efforts which are often catalysts to connect people to health services. The World Health Organization (WHO) - STOP TB strategy,^[4] Engage TB strategy^[5] have also highlighted to enhance community awareness on TB and trained of staffs and medical officers on TB. TB is both curable and preventable. More than 90% of patients with TB are cured if they receive timely diagnosis, are prescribed the correct treatment, and they take their drugs properly every day for approximately 6 months. Henceforth, to lead the patients in correct direction awareness on NTEP and central TB division guidelines is mandatory for the medical interns. 2008–2009 TB day theme: “I am stopping TB” - The slogan says that everyone can take an active role in helping all people in need to gain access to

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accurate TB diagnosis and effective treatment. Patients can stop TB by becoming active participants in their own cure and taking all their anti-TB drugs as prescribed. Some of the key community leaders such as health workers can stop TB by staying alert to the symptoms of the disease and providing prompt diagnosis and treatment.^[6] Hence, rationale for targeting Compulsory Residential Medical Interns (CRMI) is being a part of health-care professionals they have role and responsibilities for counseling the patients on TB and they can empower the community by raising awareness on TB which pays way towards TB elimination.

Objective

1. To assess the awareness about NTEP among CRMI.
2. To determine the effectiveness of the training program in the improvement of knowledge of CRMI.

MATERIAL AND METHODS

Study setting and participants

The present study was conducted among CRMI batch wise whenever they are getting posted in the community medicine department. The department of community medicine is conducting a training program for the CRMI supported by State TB officer (STO) and State Task Force, NTEP Puducherry from 2014.^[7] Which will serve as a base for them to get indulged in a community-based TB programme: Health education awareness programs, Active Case Finding for TB.^[8]

Study design and participants

It was a pre-test and post-test design conducted among CRMI posted in the department of community medicine, Sri Manakula Vinayagar Medical College and Hospital in Villupuram district of Tamil Nadu. Till date (2014–2022), we could train around 600 CRMI in batches.

Data collection

The training program was conducted as per the session plan mentioned in the table. The content of the training program was based on NTEP guidelines released by the Central TB division guidelines. To assess the level of knowledge and skill acquired from the training, self-administered structured questionnaires were distributed to all the participants before and after a training program. The questionnaire used in this study comprised knowledge of presumptive TB (Based on NTEP guidelines): mode of spread, high-risk groups, comorbid condition, diagnostic test, and duration of treatment. At the end of the sessions, feedback was obtained immediately from all the interns using a four-point Likert-type scale and open-ended feedback was also obtained after the training program.

Data analysis

The collected data were entered in Epi_Info (ver. 7.2.2.6; Centers for Disease Control and Prevention, Atlanta, GA, USA, and WHO) software and analyzed using IBM SPSS Statistics (ver. 24.0; IBM Co., Armonk, NY, USA). Both the pre- and post-test data were compared to find the effect of the educational training. The paired test was used to test the statistical significance. If the $P < 0.05$, then the pre- and post-test differences were considered statistically significant. Manual content analysis was done for the obtained feedback.

RESULTS

Sociodemographic details of the participants

Among 600 CRMI, the mean age was 20 ± 2.5 (standard deviation) years. All the interns agreed to participate in the study with a response rate of 100%. Among them, 80% were Hindus.

There is a statistically significant difference between the pre- and post-test scores of the participants. The results showed that there is 57.8% improvement in the knowledge of the participants about TB after the training program [Table 1].

Immediate feedback was obtained from the interns using Google Form four-point Likert scale was used. In the analysis of feedback, the consensus score for all the responses was above 83%. Manual content analysis of the open-ended feedback was done [Table 2].

DISCUSSION

Key findings of the study

This pre- and post-test interventional study was done to know the knowledge about NTEP guidelines. This study resulted in moderate knowledge about NTEP among the CRMI at baseline and after the training program at the end line, there was a significant improvement in the knowledge regarding the signs and symptoms, treatment, and case detection activity.

Rationale for training CRMI

The major component NTEP program emphasis training^[2-4] all medical officers in effective implementation of the framework and they are responsible for counseling the patients on TB and they can empower the community by raising awareness on TB which pays way toward TB elimination to community people break the barriers. To effectively impart such education, this study has imparted comprehensive training on NTEP guidelines.

Table 1: Pre and post-test mean score.

	Mean	Standard deviation	t-value	P-value
Pre-test	11.5614	4.65230	10.575	<0.003*
Post-test	16.7984	4.25217		

*Improvement % or Change % = (Post-test mean–Pre-test mean) 100/(Pre-test mean). *Only the scores of the students who participated in both the pre and post-tests were included

Table 2: Manual content analysis of open ended feedback.

Experience sharing	n=600
We learned about recent NTEP guidelines	572
Learned about newer treatment algorithm	540
CBNAAT can detect rifampicin resistance	538
Importance of spreading TB awareness in the community	411
I learned about presumptive TB and history taking from the training programme	390
I learned about NIKSHAY	320
Screening of high risk groups	313
I learned about intensified case finding	223

NTEP: National Tuberculosis Elimination Programme, TB: Tuberculosis, CBNAAT: Cartridge based nucleic acid amplification test

Session plan for the training programme.

Session	Program	Time
Session-1	Registration and Pre-test	08.45 am–09.15 am
	Introduction	09.15 am–09.45 am
Session-2	Problem statement/ organogram of RNTCP	09.45 am–11.30 am*
	Case finding and diagnosis strategy	
	Definition of presumptive TB	
	Diagnostic tools including X-rays	
Session-3	Exercise on laboratory form	11.30 am–12.45 pm
	Treatment of TB	
	Case definitions	
Session-4	Drug regimens	12.45 pm–01.15 pm
	Exercise on categorization and treatment card	
	Interns role in RNTCP/referral system	
Session-5	Lunch	01.15 pm–02.00 pm
	Visit to DMC and DOTS center	02.00 pm–03.00 pm
	Post-test and feedback	03.00 pm–04.00 pm

TB: Tuberculosis, RNTCP: Revised national tuberculosis control program, DMC: Designated microscopy center, DOTS: Directly observed treatment shortcourse

Stop TB approach

Advocacy, accountability, and social mobilization intervention have emphasized involving stakeholders such as

politicians, and community leaders who are the key person in the community, who have to be trained on TB. Through capacity linkage and intersectoral coordination (health-care professionals and community stakeholders) can disseminate TB health messages.^[4]

Engage TB approach

Community-based intervention for TB integration: Advocacy–collaborating medical workers (doctors and interns) with community leaders from diverse backgrounds and working together on preventive intervention by raising awareness of TB through various information, education and communication (IEC) activity and training programs which will further improve in case of detection through enhanced case finding and active case finding approach. This can be done by providing awareness to community people by medical interns along with social workers and postgraduates which is a part and parcel of their community medicine posting. Social and livelihood support like raising awareness about the direct case benefits of nutritional support and creating a conducive environment. Stigma reduction through frequent sensitization programs by community leaders. This will help us to move toward END TB.^[5]

NTEP guidelines

Community medicine department of each medical college has to be trained and supported to carry out active case finding (ACF) and intensified case finding (ICF) activity at their respective field practice area every year, which is a key strategy to identify the missing cases in the community and an important step toward elimination. To proceed with this activity training and sensitization program is mandatory for all the interns.^[3,9]

Strength of the study

This program is incorporated as a routine activity for CRMI which is an interactive hands-on activity. Hence, it would enhance their knowledge of TB and serve in early case detection.

CONCLUSION AND RECOMMENDATION

The present finding identified that knowledge of causes, signs and symptoms, methods of transmission and ways of prevention was improved among these CRMI. Educational level was found to have a significant association with knowledge of TB and its transmission. Establishing and strengthening clubs related to TB transmission and control, including topics like TB in educational curriculum, and encouraging the medical interns to participate in TB awareness activities in the community not only in the study area but also throughout the

country needs to be encouraged which play a crucial role in promoting health and preventing communicable disease including TB. Health education dissemination strategies (e.g. campaign to end TB) on the TB, its sign and symptoms, transmission and control needs to be continuously done at the community and health facility level by trained CRMI.

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Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Central TB Division. Technical and Operational Guidelines for TB Control in India; 2016. Available from: <https://tbcindia.gov.in/index1.php?lang=1&level=2&sublinkid=4573&lid=3177> [Last accessed on 2018 Nov 05].

2. Tuberculosis. CDC; 2016. Available from: <https://www.cdc.gov/tb/topic/basics/howtbspreads.htm> [Last accessed on 2019 Jun 26].
3. National Strategic Plan for Tuberculosis: 2017-25 Elimination by 2025. RNTCP; 2017. Available from: <https://tbcindia.gov.in/WriteReadData/National%20Strategic%20Plan%202017-25.pdf> [Last accessed on 2020 Oct 09]
4. Stop TB Partnership; 2014. Available from: https://www.stoptb.org/sites/default/files/stoptb_annualeport_2014_web_2.pdf [Last accessed on 2019 Jun 06].
5. ENGAGE-TB. Geneva: World Health Organization; 2012. Available from: https://apps.who.int/iris/bitstream/handle/10665/96900/9789241506540_eng.pdf [Last accessed on 2020 Jul 20].
6. World TB Day 2006-World Health Organization; 2006. Available from: <https://apps.who.int/iris/handle/10665/206174> [Last accessed on 2020 Jun 03].
7. Kalaiselvan G, Dongre AR, Murugan V. Evaluation of medical interns' learning of exposure to revised national tuberculosis control programme guidelines. *Indian J Tuberc* 2014;61:288-93.
8. Kumar VA, Kalaiselvan G, Dongre AR. Prevalence of tuberculosis among household contacts in Pondicherry: Active case finding among new smear positive cases. *Online J Health Allied Sci* 2016;15:4.
9. Mohan R, Kalaiselvan G, Venugopal V, Vivekananda K. Student centered approach' in implementing community based active case finding for tuberculosis in rural, Puducherry - A qualitative evaluation. *Indian J Tuberc* 2022;69:613-9.

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