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Capacity building through operational research training in tobacco control: Experiences and lesson learned

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Abstract

Background: Several competing priorities with health and development sector currently deter research, and as a result of which evidence does not drive policy- or decision-making. There is limited operational research (OR) within the India's National Tobacco Control Programme, as it is in other middle- and low-income countries, primarily due to limited capacity and skills in undertaking OR and lack of dedicated funding. Few models of OR have been developed to meet the needs of different settings; however, they were found to be costly and time-consuming. **Objective:** To elucidate a cost-effective and less resource arduous training model for building capacity in OR focused on tobacco control. **Materials and Methods:** This 5½-day partly funded course enrolled 15 participants across the country and nine facilitators. The facilitator-participants interactions were initiated 2 weeks before the course, which enabled them to develop possible research questions and a plan for data analysis. **Results:** This article presents the new OR model along with experiences of the participants which will provide useful insights on lessons learned for planning similar courses in the future. While we faced several challenges in the process and the outputs were modest, several lessons were learned which will be instrumental in the future courses that we are planning to conduct. **Conclusion:** This low cost and less time intensive model can be applied in similar settings across range of public health issues.

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Full Text

Introduction

Operational research (OR) and its application in the health sector has gained immense importance in the last decade and has been recognized as integral to routine National Health Programmes and health systems in low- and middle-income countries. In spite of its importance and perceived recognition, very little OR happens within national programs and health systems and gets published even lesser.[1]

Globally, tobacco kills more than six million people a year and is the single largest cause of preventable death in the world.[2],[3],[4] Framework Convention on Tobacco Control (FCTC), the first public health legally binding treaty negotiated under the auspices of the WHO in May 2003 representing 170 countries, also mandates use of evidence-based tobacco control interventions which have been proven to work. Article 20 of FCTC states that the parties undertake to develop and promote national research and to coordinate research programs at the regional and international levels in the field of tobacco control.[5]

Broadly, there are two main issues associated with tobacco-related research. First, while there is a strong evidence on the effectiveness of tobacco control interventions from many high-income countries, the same is sparse from low- and middle-income countries. Vested interests in tobacco industry sometimes use this lack of local evidence to create bottlenecks for effective tobacco control.[6] Hence, the generation of local, country-specific evidence is crucial to validate the findings from high-income countries and optimize them further for use in low- and middle-income countries.[4] Second, though there has been considerable tobacco-related research focused on tobacco use as a causal agent and on determinants of tobacco use, OR on policy interventions to prevent tobacco initiation, consumption, and promote tobacco cessation is still lacking.[4]

The prime reasons for lower priority in research on tobacco control are lack of resources due to competing priorities, lack of commitment from donors, lack of awareness of policymakers, tobacco industry interference, and insufficient human resource capacity to plan and implement research.[7]

Over the last two decades, there have been many initiatives to build OR capacity. One such initiative conceived, developed, and implemented jointly by International Union Against Tuberculosis and Lung Disease (The Union) and Medecins Sans Frontiers (MSF) is viewed as a benchmark in this area.[8],[9],[10],[11],[12] However, conducting these courses is resource intensive 75,000–100,000 USD per course and also requires a substantial investment of time (3 weeks of dedicated face-to-face interaction with mentors and about 6 months for data collection and analysis) which is sometimes challenging to elicit out of the busy schedule of program managers and facilitators. Hence, there is a need to try alternative models which are less costly, make use of existing resources, require less time, and focus exclusively on tobacco control. In this direction, a new OR model was conceived and implemented in year 2014. The objective of the present article is to elucidate a cost-effective and less resource arduous training model for building capacity in OR focused on tobacco control in terms of

its cost, time, and output with the challenges faced while implementing the model.

Materials and Methods

OR course: Settings and objectives

The 5½-day course was organized in year 2014 by a tertiary health care and research institution in technical collaboration with a developmental partner, with an aim of building the capacity of public health professionals (postgraduate students and junior faculty in schools of public health and medical colleges) in OR, focusing on tobacco control. The course also aimed to enable participants to identify research question, effectively write the methods and results and develop confidence pertaining to scientific paper writing. The course was approved by the institutional committee. However, the research papers written during the course were exempted from ethics review by the Chairperson of the Ethics Committee of both partner institutions, as it was a secondary analysis of existing data set and did not involve any direct interaction with human participants.

Course structure

The course was output oriented and modeled on The Union-MSF model, with the output being development of a draft scientific manuscript by the end of the course, to be refined and submitted to a peer-reviewed journal within 4 weeks of the completion of course. The key difference was that there was an effort to combine all the three standard modules of the Union-MSF OR course into 1 weeks – participants come to the course with a research question and work on a standard data set available in public domain to answer the question and write up the paper for publication.

Selection of participants and facilitators

The selection of participants was done 1 month before the course through an open call for applications. The brochure and application form was widely circulated in major professional groups through e-mails and postings on the institute websites. A total of 15 participants were selected through a competitive process by a selection panel, of whom one could not attend the course due to medical reasons. The selection of participants was done by taking representations from different states of country, gender, academic profile, and organization. Preference was given to participants who had some previous experience in conducting research and data analysis.

A total of 9 facilitators were identified from various institutions having prior research experience in conducting operation research courses or undertaking operation research.

Course logistics

The course was partly funded by three organizations, namely, the Medical Council of India which funded INR 50,000 (around $900), Indian Council of Medical Research which funded INR 50,000 (around $900), and International Union Against Tuberculosis and Lung Diseases (The Union), which funded the travel and accommodation of the course facilitators of their organization (4 in number). The participants had to pay a marginal participation fee of INR 3000 ($50) to attend the course (which covered lunch and refreshments, course material, and venue charges). In addition, the participants were provided the accommodation at minimal charges ($ 4/day) in guest houses of the institute. The participants had to bear their travel cost and other incidental costs.

Precourse e-mentoring

Research questions were related to tobacco control in India and we planned to use the publicly available Global Adult Tobacco Survey 2010 data set to answer the research questions. The participants were allocated to the respective mentors 2 weeks before the course so that the mentors may begin interacting with the participants about the possible research question and plan for data analysis.

Course content

During the course, the participants were taken through each section of a paper (introduction, methods, results, and discussion) step by step. They also learned the principles of scientific writing. They were tutored how to handle tables/figures, references, online electronic submission, peer-review, and revision. The curriculum included Powerpoint presentations and group work followed by plenary sessions. The detailed schedule of course is provided in [Table 1].{Table 1}

Results

A total of 15 participants (one dropped out because of health reasons during course, thus 14 participants) were selected among 33 applicants (9 females and 5 males). The participants were from 9 states of country and Nepal.

All the participants attended full 5½ days of the course. One month following the course, two participants submitted their paper to a peer-reviewed journal. Moreover, 1 year after the completion of the course, three more participants submitted their papers, of which one has been published while two are in press. The participants were appreciative of the learning experience though they mentioned two key challenges – insufficient time and the limited mentor time available to each participant. The detailed feedback of participants regarding their increased capacity in OR are provided in [Box 1]. The cost of implementing the present OR course was $140 per participant, which included lunch and refreshments, course material, and venue charges for full 5½ days of the course.[INLINE:1]

Discussion

The current OR course is a maiden effort to adapt the Structured Operational Research and Training Initiative (SORT-IT) model of capacity building, with minimal cost and time constraints. As a result of the successful conduction of this course, the participants learned to use publicly available secondary data sets to answer operationally useful research questions in the neglected area of tobacco control and publish papers in scientific peer-reviewed journals. The overall outputs were modest and discussed below are some of the lessons learned in the process.

What worked?

First, this was a collaborative effort of public health institutions which helped in furthering the networking in the fields of OR and tobacco control. Second, it helped in initiating a cohort of young researchers, most of whom had no experience in paper writing, into the world of OR and tobacco control. Third, it helped in building capacity of young researchers and new faculty in conducting a paper writing course.

What did not work?

While the lectures were planned and implemented as scheduled, we were not able to achieve the desired outputs as most of the participants could not have a draft paper ready by the

end of the week. The other challenges included nonresponse to mentors mails by the participants before coming to the course, time-consuming process of finalizing the research question, participants' lack of capacity in data analysis, error-prone secondary data set used for analysis, lack of ample experience for few facilitators, poor health of the course-coordinator along with his other preoccupations, lower mentee–mentor ratio, and lack of ample time for paper writing. These challenges have been enlisted in [Box 2].[INLINE:2]

We have not followed up with the participants in terms of long-term outcomes such as change in policy and practice as a result of paper out of OR course; postcourse involvement in research training, mentoring, paper reviewing, and presentations in conferences/workshops; or changes observed by participants in their organization's approach to OR.

Lesson learned

Few lessons were learned during the conduction of course which should be addressed while guiding such courses in the future. The problem of time shortage for finalizing the research question and writing “results and discussion” section can be addressed by framing clear-cut research question during e-mentoring stage (before the actual course), with clear-cut dependent and independent variables, which can be easily extracted from the available data set. The time period of e-mentoring can be extended for 1 month instead of 15 days, so that participants come prepared, after having discussed with their mentors, with clear research question and first-draft analysis. It should be supplemented with an additional day for writing results and discussion section. For tackling issue pertaining to inadequate data analytical skills of participants, data analysis support can be provided to participants during e-mentoring stage. Further, it can be reiterated by providing an extra day during the course. The mentor-mentee ratio should be increased to 1:1, which shall take away the pressure on both facilitators and participants. Increased course duration (7½ instead of 5½ days) and mentors are associated with increased cost along with increased commitment of mentors and participants to stay away from duty stations and family. Still, it is quite less as compared to existing OR courses. In addition, there should be commitment from various funding organizations to fund such cost-effective OR courses focusing on an emerging pandemic of tobacco control, along with commitment from mentors (faculty) from different institutions. The National Tobacco Control Programme, India, should take a lead in providing technical and financial support to such OR courses on tobacco control and also encourage young researchers from medical colleges along with state program managers in developing and addressing relevant policy-focused research questions.

Conclusion

In this first-of-its-kind course remodeled on the widely popular SORT-IT course, we built the capacity of young researchers in OR related to tobacco control in India. While we faced several challenges in the process and the outputs were modest, several lessons were learned which will be instrumental in the future courses that we are planning to conduct. Keeping the limitations of the current study in mind, we propose that the selection of participants for the future study shall be homogeneous in respect to skills and expertise. Further, long-term follow-up of participants should be done.

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Conflicts of interest

There are no conflicts of interest.

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