CHAPTER 3

METHODOLOGY

This chapter discusses the research methodologies which include the research design, settings, population, sampling techniques applied, research instrument, data collection procedures and data analyses used in the research study.

3.1 RESEARCH DESIGN

The research design is an action plan indicating the specific steps that are necessary to provide answers to research questions. The research design is a blueprint, or outline, for conducting the study in such a way that maximum control will be exercised over factors that could interfere with the validity of the research results (Polit & Hunger 1995).

The purpose of the research is to assess the effectiveness of the IEC materials designed by the national TB control programme RNTCP and its regional wing-State TB unit at Chennai. The research also tries to understand the perceptions of the health workers involved in the implementation of tuberculosis DOTS programme. Therefore triangulation method using both quantitative and qualitative approaches was selected to fully understand the nature of research problem.

The chosen mixed-method research approach attempts to bring together methods from different paradigms enabling the researcher to get a
comprehensive and holistic view of the entire study. According to Creswell (2003), mixed-method approach is a sequential explanatory design which involves collecting and analyzing quantitative, and then qualitative data in two successive phases within one study.

Since a major part of the research deals with evaluating and assessing the IEC materials among the visitors at government hospitals and TB patients, quantitative research method was thought to be appropriate for this aspect of the study. To an equal extent qualitative techniques including non-participatory observation of the patients at DOTS centers and qualitative content analysis of IEC materials were used for the study.

The mixed-method approach is an enquiry process of understanding based on a distinct methodological tradition of enquiry that explores a social or human problem, analysis, words and detailed reports from informants, views and perceptions, from observations, and where the study is conducted in a natural setting (Matter 2000). The mixed-method was chosen because the researcher intended to use observation for getting qualitative information, while questionnaires were used to collect quantitative data from a large population and to allow respondents to provide information leisurely on their own. The content analysis helped to form the questionnaires.

The present study has adopted content analysis, survey method, and non-participatory observation methods. The study attempts to find out how much of the knowledge, facts and information in the RNTCP and Chennai state TB unit’s IEC materials has been understood by the visitors at the government hospitals and the TB patients undergoing DOTS. The perceptions and opinions about Tuberculosis disease, communication materials and strategies are also studied.
The survey research has a quasi-experimental design since it has an element of evaluation. Survey participants were exposed to the IEC materials beforehand. The hospital visitors and patients were asked to go through the various formats of TB communication materials including posters, banners, hand-outs, leaflets, booklets, brochures, stickers before filling up the questionnaires. Only print materials were taken for evaluation. The research is not entirely experimental in nature as there is no pre-testing and control groups involved.

The research is not merely an evaluation, but goes beyond it describing and exploring the various communication strategies for achieving better control over TB through IEC materials.

The other part of the survey involving the health workers is descriptive in nature. It describes the various effective communication strategies involving the messages, channels and community members. The perceptions of the health workers about general health practices, the widespread myths and misconceptions in the society, and the attitudes of community members towards the disease with respect to TB are reported.

The focus of descriptive studies is on the situation as it is, that is, conditions that exist, practices that prevail, beliefs, attitudes and ongoing processes (Babbie 2001). Descriptive studies do not focus on relationships among variables. Their purpose is to observe, describe and document aspects of a situation as it naturally occurs.

The non-participatory observation describes the hospital settings and situations, health workers counseling the patients, display of TB communication materials. The queries of patients and the family members accompanying them give an indication about their health needs. The intent of the observation was to document the aspects of the situation.
3.2 THEORETICAL ORIENTATION

Health belief model (HBM) is one of the widely used conceptual frameworks for understanding and predicting health behavior (Campus 2005). It explains why people fail to practice recommended health behaviour stressing on the importance of awareness of health problems that can lead to action. This model was designed by Becker and Rosenstock in 1974.

It provides a useful checklist of issues that need to be addressed in a health education intervention. In this research context these issues are knowledge and informational aspects of TB that are addressed in the print materials. Thus, while evaluating the TB health messages in the print material it can act as a guide at many stages of research. To instill a stronger belief in them and take positive action health workers can further reinforce the health messages through their interpersonal communication. This model has been incorporated into a number of public health campaigns to prevent AIDS (Fisbein et al 2001).

3.3 CONTENT ANALYSIS

Content analysis is a standard methodology in the social sciences for studying the content message of communication. It is defined as a method of observation in the sense that instead of asking people to respond to questions, it ‘takes the communications that people have produced and asks questions of communications’ (Kerlinger 1973). Therefore, it is also considered as an unobtrusive or non-reactive method of social research.

RNTCP, the largest TB control programme in the world, has produced a wealth of IEC materials in various media to inform and educate the public and patients about the Tuberculosis disease. The state TB unit in Chennai, a part of RNTCP, has also designed many exclusive IEC materials
in Tamil language for the public. Only the print materials such as banners, posters, wall painting templates, hand-outs, pamphlets, leaflets, brochures, flipcharts, and booklets produced by the above two TB control units have been taken for content analyses. The communication content of these print materials were examined and analyzed for various parameters like attractiveness, text heaviness, interestingness, comprehension, lay-out, cultural appropriateness, pictorial elements and use of technical jargon which contribute to the overall readability of the materials. The contact information sources, comprehensiveness about various aspect of the disease and thoroughness of the materials were also checked for in the TB IEC materials.

The content analysis was done in January, 2013. The print materials produced in Tamil language during the last four years from 2008 to 2012 were selected for examination. Based on the findings of the analysis the questionnaires for hospital visitors, patients and health workers were formed.

3.4 SURVEY

Another important method followed in the research is survey. The study area chosen for the research is Chennai and Salem districts of Tamilnadu. Chennai is a metropolitan city consisting more of urban population while Salem town has a mix of urban, semi-rural and rural people. These two places were selected as they were some of the high TB burden districts of the state (TB India 2012) representing all sections of urban and rural populations.

The approach used in this study involved systematic collection of quantifiable information. Therefore a structured questionnaire as a research tool was chosen to gather data. Three different groups namely hospital visitors, Tuberculosis patients undergoing DOTS and TB health workers were selected for the survey to get wider representation. The collection of data
from various stake holders like TB patients, health workers and the people visiting government hospitals about different aspects of the Tuberculosis IEC print materials was done through separate questionnaires designed for each group.

All the questions in the questionnaire were in local Tamil language and it was mostly self-administered among health workers and hospital visitors. Only among patients the schedule was filled with the help of the researcher and moderators. The number of samples collected from hospital visitors at the government hospitals were 400 while TB patients and health workers had 224 and 110 respectively.

For the hospital visitors category, samples were drawn from various primary health centers, government hospitals inside the city limits and also from health posts located on the suburbs. Filled up questionnaires were collected from general patients at the outpatient department, people waiting at the pharmacies and laboratories. The family members and friends who accompany the general patients come under the hospital visitors category. The samples were included from across a wide spectrum of hospital visitors at the telephone booths, tea shops, canteens and stationary shops on the hospital premises applying convenient sampling method. It had a total number of 400 samples from genders, all age groups, religions and educational levels.

The second group had Tuberculosis patients (222) at various stages of DOTS treatment. Samples for the patients category were gathered at four DOTS centers from each city using a multi-stage cluster sampling method. Many of the TB DOTS centers are part of the general government hospitals in each city zone. Many willing patients could not be included in the survey as they were illiterate.
The third group of health workers category had senior treatment supervisors (TB), community DOTS providers and lab technicians administering DOTS treatment regularly amounting to 110 samples. The corporations of Chennai and Salem districts are divided into many zones based on the population. Samples for the health workers were collected from each zone using stratified sampling technique. Thus the samples were fully representative of the entire population.

The study was conducted from April to September; 2013. The questionnaires were pre tested on 5% of the population in all three categories namely hospital visitors, Tuberculosis patients undergoing DOTS treatment and health workers representing all the strata and clusters respectively were selected for the study. Based on pre-test results few modifications were made in the questionnaires. Number of open ended questions was reduced as there was poor response from visitors and patients. Some overlapping and repetitive questions were deleted to avoid confusion. The variables used in the questionnaires have been derived from the content analyses of the Tuberculosis IEC materials shown to the hospital visitors and patients.

The final questionnaire tool for hospital visitors had three parts in it. Part I contains questions on demographic details of the respondents and their awareness about the disease before the exposure to IEC materials. Part II is about the knowledge regarding the various aspects of Tuberculosis disease explained in the IEC materials. Part III had questions about the attitudes and practices towards TB patients and related issues. Part IV contained the IEC related questions about the materials read by the respondents. Patient’s questionnaire had questions about knowledge, attitude and communicative aspects of the materials in addition to the demographic details of them in four different parts. The questionnaire for health workers contained questions regarding the prevalent myths and misconceptions about TB among people, effective communication mediums and strategies.
3.5 NON-PARTICIPATORY OBSERVATION

The researcher used non-participatory observation where data is collected by observing hospital settings, behavior of health workers, patients, accompanying family members and other health personnel. The observation check list was followed to focus on those issues which would answer the research questions. The four DOTS centers situated in different areas of Chennai city-Sembium, Mylapore, Thiruvanmiur and Pulianthope were chosen for the non-participatory observation during July and Augut, 2013.

Things which were observed included the health care facilities aiding the DOTS implementation and conduciveness of the hospital environment to counseling and dissemination of useful health information through banners, displays and posters. The observation was limited to only the DOTS centers of the hospitals.

3.6 STATISTICAL TECHNIQUES AND TOOLS USED FOR DATA ANALYSIS

Descriptive statistics were used to describe and summarize the properties of the voluminous data collected from the respondents. The data were analyzed with the help of SPSS.17 (Software package for Social Sciences). Chi-Square tests were used to see if there were any significant associations between important variables. ANOVA and T-tests were used to determine the proportion of variance in the patients and hospital visitors towards overall readability of the Tuberculosis IEC materials. By convention, a level of 0.05 was established for determining the statistical significance.

3.7 ETHICAL CONSIDERATION

Letters were written to the concerned bodies to obtain permission and cooperation for data collection. TB patients were briefed about the confidentiality of their responses and the importance of providing the right
information. Informed verbal consent was secured from the study subjects to participate in the study. The intervention provided was adolescent friendly and culturally acceptable.

3.8 LIMITATIONS OF THE RESEARCH

1. The samples were only limited to people who could read textual matter. Illiterate people could not be included in the study as the print materials had a lot of text, though some pictographs in the TB messages were self-explanatory.

2. TB patients might be very sensitive to the study because of the stigma associated with the disease and may not have provided honest information especially for the question regarding others knowing about their disease status.

3. Some respondents from hospital visitors and patients categories may be reluctant to express strong views about the public health system and TB control programme.

4. Patients may tend to be diplomatic and non-committal about the attitudes of the health workers and other aspects of the DOTS programme.

5. Only patients at DOTS centers were included in the study. Samples from the defaulters and many MDR patients could not be collected.

6. Health workers tend to give mostly correct answers trying to make a good impression about their work and knowledge.