



Control measures for Mycobacterium Tuberculosis in services provided in hospitals: an evaluative study

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ABSTRACT

Objective: To evaluate the control measures for the infection by *Mycobacterium tuberculosis* from the perspective of both structure and process dimensions in a university hospital located in the city of Natal, Rio Grande do Norte. **Method:** The sample will include 275 nursing professionals, 93 of which are nurses and 182 are technicians. A 48 items questionnaire will be applied, using the Likert scale, divided into three sections: professional characterization, structure dimension and process dimension. Data will be analyzed using descriptive statistics. **Expected outcomes:** To contribute to identify indicators that lead professionals to think over their actions, aiming at helping them make decisions.

Descriptors: Health Evaluation; Tuberculosis; Infection Control; Hospitals.

CONTEXTUALIZATION AND RESEARCH PROBLEM

Tuberculosis (TB) is a curable infectious disease whose diagnosis and treatment are available, free of charge, at the Unified Health System (SUS). Some ten million occurrences of this disease are estimated to occur worldwide, and 80% of them are spread over 30 countries⁽¹⁾.

When it comes to the transmission of the infection in hospital settings, those spaces are identified as high risk for TB, with records of nosocomial outbreaks involving both patients and health professionals. Greater efforts are therefore required for widening control measures, aimed at increasing healing rates and reducing transmission risks^(1,2).

Therefore, the Ministry of Health established a set of control measures for the *M. tuberculosis* transmission. Those measures are meant to hinder the transmission chain, and are divided into three categories: administrative (or managerial) measures, environmental (or engineering) control measures, and

respiratory protection measures (individual protection)⁽¹⁾.

However, in hospital settings, controlling the infection involves difficulties, such as the absence of biosecurity measures, inadequacy of the health system, access to protection devices, lack of training for the professionals and adherence of the professionals to prevention and control measures⁽²⁾.

EVALUATIVE QUESTION

What control measures for tuberculosis are in place at the university hospital?

OBJECTIVE

To evaluate the control measures for the infection by *Mycrobacterium tuberculosis* from the perspective of both structure and process dimensions in a university hospital located in the city of Natal, Rio Grande do Norte.

METHOD

Normative and quantitative study of health evaluation. It consists of issuing a judgement about an intervention, comparing the resources used and its organization (structure) and the services or the goods produced (process), and the results obtained, with criteria and norms⁽³⁾.

The study background will be a university hospital located in the city of Natal, Rio Grande do Norte. The population will be composed by nursing professionals (technicians and nurses), according to the following inclusion criteria: to be on duty during data collection; to perform actions related to TB control; and to be assigned to those sectors defined to make part of the study sample. Professionals that will be excluded: managers, professor, students and those who, during the collection period, are out of duty due to vacation or on leave, or yet under medical license.

The sample calculation used the number of professionals enrolled in the National Cadaster of Health Establishments, distributed over the sectors that were chosen to take part in the study. A 5% sample error was considered, with a 95% confidence interval. As the proportion was

unknown, a $p=0.5$ (maximum variance) was assumed.

It was decided to carry out a random stratified sampling with proportional allocation, so as to obtain homogeneous representativity of the participants who would compose the background. The sampling calculation showed that 275 professionals would be required – 93 nurses and 182 technicians.

Data collection will use a questionnaire built by researchers who work in the Health Surveillance area, and experts in TB prevention and control in Brazil. The tool was based on norms included in the Recommendations Handbook for Tuberculosis Control in Brazil⁽¹⁾, which provided elements to build indicators.

The tool is made of 48 objective questions and is divided into three sections: the first one refers to the professional characterization; the second one refers to the structure dimension; and the third one, to the process dimension. In the structure and process dimensions, the questions will be organized according to control measures subdimensions (administrative, environmental and protection).

Objective questions are either dichotomous or multiple choice with single answer, using the Likert scale. Answers will be classified in "never", "almost never", "sometimes", "almost always" and "always". In order to use this scale, a value between "one" and "five" will be assigned – the higher value will be assigned to the most favorable answer, and the most unfavorable answer will receive the lower value.

Data will be analyzed using descriptive statistics and will be presented on tables and boxes, using the Statistical Package for the Social Sciences program (SPSS), version 2.0 IBM.

The present study fulfills rules as stated in Resolution 466/2012 by the National Health Council, and was analyzed by the Ethics Committee of the Federal University of Rio Grande do Norte, under CAAE 30783920.5.0000.5537. The research is connected to the Academic Graduation course on Nursing of the UFRN.

EXPECTED RESULTS

The evaluation of control measures for the *Mycobacterium tuberculosis* infection at a university hospital service is expected to contribute to identify indicators that lead professionals to think over their actions, aiming at helping them make decisions.

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