AVAILABILITY OF TUBERCULOSIS INFECTION CONTROL PLANS AT RESOURCE-LIMITED HOSPITALS OF VHEMBE DISTRICT, LIMPOPO PROVINCE OF SOUTH AFRICA

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PRESENTED AT THE LIMPOPO PROVINCIAL DEPARTMENT OF HEALTH RESEARCH DAY

02 November 2012

1. INTRODUCTION

- Tuberculosis is a major cause of death in the World with an estimated 9.2 million new TB cases in 2006, and 1.7 million deaths.
- Nationally, the average death rate due to TB in 2010 was at 6.5%.
- In Limpopo Province death rate was higher than the national average and was at 8.5% in 2010.
- Limpopo province was the second highest nationally with a death rate of 8.5% when discussed at the TB conference in Durban.

2. BACKGROUND OF THE STUDY

- In 2005, TB was declared an emergency by all African Health Ministers in Maputo at the WHO-Afro Regional committee meeting.
- All WHO-Afro members were asked to develop and implement, with immediate effect, an emergency plan in order to improve TB detection, treatment success rate and reduce patient's defaulter rates.
- South Africa participated actively in the development of this resolution.

BACKGROUND CONT'

- One of the goals of the National DoH Strategic Plan (NSP) of South Africa for 2012-2016, MDGs (Goal number 6) and the Stop TB partnership targets (WHO 2006) is to reduce the number of new TB infections as well as deaths due to TB by 50% by 2015.
- The reduction of new infections and deaths due to TB can only be possible if facilities could develop and implement plans for TB Infection Control (also called TB IC plans).

BACKGROUND CONT'

- The development of TB Infection Control plan is regarded by the WHO (2006) as the first step amongst the essential actions for effective TB infection control in health care facilities.
- The Indian Ministry of Health and family welfare (2012) states that TB infection control plan serve to establish visible commitment of the facility to prevent the transmission.

BACKGROUND CONT'

- TB IC plan articulate clear policies and procedures to ensure proper implementation, and making staff roles and responsibilities clear (WHO, 2009).
- Similarly, the WHO (2006) believes that Tuberculosis (TB) IC plan establishes goals, compliance requirements, roles, responsibilities, policies, and procedures to administer and manage a TB infection control program.

BACKGROUND CONT'

- According to WHO (2008), TB IC plan gives guidance on how to identify high risk areas for TB transmission in a facility as well as TB information to be provided to health care workers (HCWs) and patients.
- TB IC plan detail in writing the measures that should be taken in a given facility to control TB infection (Sissolack et al, 2012).

BACKGROUND CONT'

- The WHO (1999) states that IC plan outlines a protocol for the prompt recognition and initiation of airborne precautions of persons with suspected or confirmed TB disease.

- The WHO (2009) further states that IC plan formalizes the establishment of TB IC committees as well as the appointment of one individual in a facility that is assigned the responsibility and accorded the authority to monitor the implementation of the developed IC Plan.

BACKGROUND CONT'

- In view of the critical importance of TB IC plans in TB infection control, it is imperative that every hospital develop and implement TB IC plan if TB control targets are to be realized.

3. PROBLEM STATEMENT

- In March 2011 the National Department of Health press release statement issued by the Minister of Health stated that South Africa as a country is not making progress towards combating TB.
- Limpopo Provincial TB annual report 2010 indicates that in Limpopo province the TB case load has been increasing from 11897 in 2005 to 22158 in 2011.

PROBLEM STATEMENT CONT'

- Communicable disease surveillance Bulletin (2010) highlights that the statistic of Tuberculosis cases in Vhembe district for the year 2009 was 2194.
- About 750 of these were new cases of women at child-bearing age of 15-44years whereas 20 were new cases of children from 0-4 years .
- Let us be reminded that the availability and implementation of TB IC plans is regarded by the WHO (2006) as an essential action for TB infection control.
- It was against this background that this study was conducted.

4. PURPOSE OF THE STUDY

To investigate the availability of TB infection control plans at resource-limited hospital of Vhembe district.

5. OBJECTIVES OF THE STUDY

- Explore and describe awareness of health care providers of the availability of TB IC in the hospital.
- Assess the knowledge of health care providers on the content of the TB IC plan.
- Check the availability TB infection control committees.
- Identity the role of TB infection control committees from the perspective of health care providers.

6. THE STUDY METHODS

4.1 Design

This study adopted a qualitative cross-sectional descriptive case study design approach where hospitals served as cases for TB infection control studies.

4.2 The study setting

- The study was conducted around Vhembe district of the Limpopo province. Vhembe district is found in the far-northern side of South Africa, bordered by Zimbabwe and Mozambique. Vhembe District consists of four sub-districts, namely, Thulamela, Makhado, Mutale and Musina. Vhembe District has eight hospitals, 112 clinics and eight health centers.
- Seven hospitals of Vhembe district participated in this study.

STUDY METHODS CONT'

4.3 Target population

- The target population of this study was all health care workers in participating hospitals.

4.4 Sample size

Fifty seven (57) HCWs of different categories (ranging from deputy manager nursing (1); laboratory staff (7); surgical ward nurses (4), TB focal point (2); pediatric ward nurses (6), OPD/casualty (7); X-ray staff (7); TB ward nurses (5); medical ward nurses (7); infection control nurses (2); pharmacy (2); OHS nurses (1); ARV clinic nurses (2); sub-acute (1), maternity (1), and Psych (1) participated in this study.

STUDY METHODS CONT'

4.5 Data collection methods

Data for this study was collected through focus group discussions with HCWs serving as focus group members. There was only one focus group per hospital making seven focus groups in seven participating hospitals each comprising of five to twelve participants.

4.6 Data collection process.

The researcher set the date and time for focus group discussion and communicated these to the hospital managers, requesting for their help regarding the arrangement of the venue and delegation of reps.

Data collection cont'

- The permission was negotiated with participants to use the voice recorder to accurately capture the information. There was only one focus group discussion session per participating hospital.

- One unstructured question, namely, "*Could you please describe what is contained in the TB IC plan of this hospital?* was used to collect data from the participants.

Data collection cont.'

- This question was followed by probing questions that needed clarity regarding the availability of TB IC officer and TB IC Committee and TB IC team in hospitals.

- Each focus group discussion session lasted between one hour thirty minutes and two hours to enable the researcher to obtain the necessary information until theoretical saturation was reached.

STUDY METHODS CONT'

4.7 Ethical considerations

- Approval to conduct the study was obtained from Limpopo Provincial Department of Health
- The ethical clearance was obtained from the University of Venda, Research Ethics Committee.
- Permission to access the seven hospitals was obtained from each hospital manager.
- Informed consent was obtained from participants.
- Anonymity and confidentiality were observed throughout the study.

STUDY METHODS cont'

4.8 Data analysis

- Analysis of data was done guided by eight steps of Tesch's open coding method where the researcher read through all of the field notes (from focus group discussions) and carefully made interpretations as they come to mind in order to get a sense of the entire notes.
- Tape recorded information served as a backup.
- The interpretations were written as themes and similar themes were clustered together, and arranged and finally merged into major theme and sub-themes.

STUDY METHODS CONT'

4.9 Measures of ensuring trustworthiness of the study findings

- Trustworthiness was ensured through the use of Lincoln and Guba (1985) criteria outlined in Cresswell (1986) namely, credibility, transferability, confirmability and dependability.
- Credibility was ensured through prolonged engagement of participants in focus group discussions for one and half hours to two hours.

Trust worthiness cont'

- Triangulation of capturing data was done namely through the use of voice recorder during focus group discussions and writing of field notes.
- Referential adequacy was ensured by using a voice recorder to capture the discussions thereby providing a suitable authentic record.
- Tape recordings as well as field notes taken during focus group interviews increased the confirmability of the research.

Trustworthiness cont'

- Transferability was ensured through complete description of research method, and interpretation of the research findings in the study report.

THE STUDY RESULTS

- On the field notes, the seven hospitals were given codes in the form of letters of alphabet (A-G) to ensure their privacy and anonymity.
- The theme and sub-themes that emerged during data analysis are presented in the following slide.
- The direct quotes of what participants said during focus group discussion are written in *'italics'*.

STUDY RESULTS CONT'

Theme	Sub-themes
Availability of TB infection control plan	1. Health care providers were not awareness of the availability of TB IC plans in their hospitals. 2. There was knowledge deficit on the content of TB IC plans. 3. No person was designated as TB IC officer. 4. There was a lack of TB IC Committee and Team as well as ineffective utilization thereof.

STUDY RESULTS CONT.

Sub-theme 1: Non-awareness of the availability of TB IC plans

- Participants indicated that they manage clients who present with TB according to different available protocols in health facilities.
- They indicated that they were not aware that TB IC plan existed at their hospitals.
- The following were the quotes from participants,:
- TB ward nurse from hospital A said *"I am not aware of the TB IC plan of this hospital. I don't know the contents either".*

STUDY RESULTS CONT.

- The OPD/casualty nurse from hospital G concurs saying *"I am not aware of any TB infection control plan of this hospital, "what I know are these posters that are hanged on the walls"*.
- To further confirm the non-awareness of the availability of TB IC, the Laboratory technician from hospital A said *"I have never seen any TB IC plan in this hospital"*.
- A nurse working in the Isolation ward from hospital F said *"I am not aware of any TB IC plan", but the universal standard precautions are the only control measures I know of"*.
- The nurse working in the Pediatric ward from hospital B said *"I am not aware of TB IC plan of this hospital"*. However the Casualty nurse from hospital E said *"I am not sure if the hospital does have an infection control plan"*. The OPD/casualty nurse from hospital C concluded by saying *"the hospital does not have an infection control plan"*.

STUDY RESULTS CONT'

Sub-theme 2: Knowledge deficit on the content of TB IC plans

- Since participants were providing preventative and curative care to TB clients, when asked about TB IC plans, variable and inaccurate information was obtained.
- Some of Focus group members misquoted dates of policies and the content was not known.
- The following are the quotes of what was said by participants during focus group discussions:

STUDY RESULTS CONT'

- The nurse who was working at OPD from hospital F said *"I don't know the TB IC plan of the hospital, we do manage TB clients. The policy that I know is the one for general infection control of the National Department of Health (2005), which I think is still a draft" (date misquoted).*
- The nurse who was working in TB ward from hospital C said *"HCWs in the TB ward are guided by the National TB control programme (NTCP, 1996)" (date misquoted). Yaaa...we have policies that we use to manage, treat and monitor TB patients".*

STUDY RESULTS CONT'

- The disturbing situation was when the TB focal point nurse from hospital C said "*I only know the National infection control policy (NICP, 2005), which is still a draft" (date misquoted). The content is like general infection control in the hospital setting.*

STUDY RESULTS CONT'

Sub-theme 3: No person designated as a TB infection control officer

- The majority of hospitals of Vhembe district did not have a person designated as a TB infection control officer.
- Other participants pointed that quality assurance nurses, in some facilities occupational health and safety nurses are delegated roles as TB infection control officers. The following quotes were cited to support the findings:

RESULTS CONT'

- A radiographer from hospital G said *"the quality assurance nurse in this hospital is assigned the responsibility of managing infection control, including TB IC in the hospital"*.
- Whereas the laboratory technician from hospital G said *"there is no dedicated infection control nurse in this hospital, the quality assurance nurse does that"* .
- The same sentiments were shared by a nurse who is working in the surgical ward from hospital B when she said *"this hospital does not have an infection control nurse. The Occupational Health and Safety nurse is responsible for infection control in this hospital"*.

STUDY RESULTS CONT'

- The situation was the same in hospital C, as cited by a nurse who is working in the female medical ward *"the Occupational Health and Safety nurse has been assigned the responsibility of managing infection control in the hospital".*

STUDY RESULTS CONT'

Sub-theme 4: lack and Ineffective utilization of TB IC committee and team

- Out of the seven participating hospitals, only two indicated that their hospitals have infection control committees. However, functions of these committees were differing amongst the hospitals. It was further discovered from the focus group discussions that the available committees were not utilised effectively.
- The committee would only focus on ordering protective clothing as perceived by the HCWs.

STUDY RESULTS CONT'

- Furthermore, it was determined that the term 'team' and 'committee' were used interchangeably to mean a structure responsible for infection control.
- The following were the quotations from participants that were in support of ineffective utilization of available committees:
- The nurse who was working at psychiatric ward at hospital B said *"No, this hospital does not have an infection control committee"*.

STUDY RESULTS CONT'

- On the contrary, the nurse who was working from male medical ward in hospital C said "*yes, the hospital does have an infection control committee, but it is not functional, I don't know what its role is*".
- The Deputy Manager from hospital F was also of the opinion that the committee is available but not effectively utilized when saying "*there is an infection control committee in this hospital, which is responsible for ordering and distributing protective clothing such as masks, gowns, gloves, goggles, boots and plastic aprons*".

STUDY RESULTS CONT'

- The nurse who is working at the ARV clinic from hospital F said *"the infection control team is responsible for ordering and distributing protective clothing such as masks, gowns, gloves, goggles, boots and plastic aprons"* (team and committee used interchangeably).
- Some of participants in the group, like pharmacists didn't contribute much on the issue of committees as they said, the committees mostly comprise of nurses.

7. CONCLUSSIONS

The results of this study reveals that hospitals of Vhembe district do not have TB IC Plans, which means that

- They lack TB IC policies and procedures
- They lack protocols outlining prompt identification separation, diagnosis, treatment and referral.
- Thus, TB IC measures are not clear
- They roles and responsibilities of HCWs and committees regarding TB IC are not clear
- There is no person designated and assigned the responsibility of TB IC.

8. IMPLICATIONS OF THE RESULTS TO PRACTICE

- Pakenham-Walsh N, Bukachi F (2007) associates lack of TB IC plans with lack of access to basic, practical information to enable HCWs to deliver safe and effective TB care.
- Gross lack of knowledge about the basics on how to manage common diseases, is often associated with suboptimal, ineffective, dangerous health care practices and mismanagement of a lot diseases by Sissolack et al (2011).

IMPLICATIONS CONT'

- The WHO (2009) argues that lack of TB IC plans could lead to TB infection control through trial and error methods resulting from different perceptions to the implementation of various infection control measures.
- Sissolak , Marais , Mehtar (2011) believes that TB IC plan directs the path of TB suspects and TB infection control practices of health care workers in a hospital setting.
- Thus, the effectiveness of TB infection control measures is directed by a clear TB IC plan.

IMPLICATIONS CONT'

- When Moro, Errante and Infuso (2008) advices that simple TB control measures can significantly reduce TB nosocomial transmission among patients, they meant when such measures are directed by a clear TB IC plan.
- The TB information and training needs of health workers are fundamental and are also contained in the TB IC plan.

9. RECOMMENDATIONS

- Every health care facility should develop and implement a TB IC Plan.
- The times of collecting first, second and third sputum specimen from a TB suspect should be clearly indicated in the TB IC Plan.
- The safe procedure for collecting sputum specimen for TB diagnosis should be outlined in the plan, this include, the where, how much, how, and who of sputum collection.

RECOMMENDATIONS CONT'

- The TB IC Plan should clearly state environmental control measures to be observed as well as the pattern of flow of air in a room.
- The TB IC Plan should state the dates and the topics of educating HCWs about TB and TB IC.
- The TB IC plan should further clearly state how voluntary HIV counselling and testing will be provided to both staff and TB patients.
- The TB IC Plan should state the monitoring of the implementation plan, how inappropriate practices or failure to adhere to facility policies will be corrected.

RECOMMENDATIONS CONT'

- Care and disposal of the masks and respirators should be clearly outlined in the TB IC Plan
- Encouragement and the procedure for washing hands should also be clarified in the TB IC Plan.
- The pathway of TB suspects toward TB diagnosis and treatment should be clarified in the TB IC Plan.
- It must be clear in the TB IC Plan as to which patients must be identified as TB suspects.
- What respiratory hygiene or cough etiquette entails must be clarified in the TB IC plan

RECOMMENDATIONS CONT'

- The TB IC Plan should clarify the person who should be assigned the responsibility of identifying TB suspects and her role and responsibilities.
- The criteria for TB suspicion should also be clarified in the TB IC Plan.
- The TB IC Plan should also clarify the person who should be a designated TB infection control officer and who should be responsible for ensuring that the infection control measures are implemented in the facility as well as her reporting channel.

RECOMMENDATIONS CONT'

- The TB IC plan should clarify persons who should be members of the TB IC committee and Team as well as their roles.
- Which mask when and by who must also be clarified in the TB IC plan.
- It is only until Vhembe district hospitals have developed and implemented TB IC plans that Vhembe district will achieve the expected TB control targets.
- It is then that Goal number 6 of the Millennium Development Goals will be realized.

Thank you!!!