

An evaluation of the implementation of tuberculosis policies at a regional hospital in the Limpopo Province

TR Luhaiima, MA Cur Graduate

Department of Advanced Nursing University of Venda

VO Netshandama, D Cur

Department of Advanced Nursing University of Venda

M Davhana-Maselesele, D Phil

Faculty of Agriculture, Science and Technology North West University (Mafikeng Campus)

Key Words:

Evaluation, Policies, Professional Nurses, Tuberculosis

Abstract: Curationis 31(4): 31-38

The current rate of tuberculosis infections as a result of new infections, as well as re-infections of patients is of concern to the disease control and policy-making bodies of South Africa. Questions regarding the effectiveness of tuberculosis policies and programmes emerge all the time. This study intended to evaluate the extent to which tuberculosis policies are implemented in a regional hospital in the Vhembe district in the Limpopo Province.

The study was conducted using a qualitative, descriptive, exploratory and contextual design. A purposive sample of professional nurses who work in medical wards was selected, and voluntary participation was ensured. Data was collected through individual interviews, which were audiotaped and then transcribed verbatim. The researcher used an observation checklist to find out which policies were available and accessible that dealt with the management of tuberculosis.

Findings revealed that tuberculosis policies were not available in the medical wards and not accessible on shelves. Participants expressed lack of knowledge about the existing tuberculosis policies. Lack of information was attributed to insufficient policy information dissemination associated with lack of in-service training and reporting mechanisms after workshops. Shortage of treatment was also indicated as a deterrent to effective policy implementation. The conclusion was reached, based on the findings of the research, that unless there was ongoing monitoring and evaluation of tuberculosis policies at local clinic level, including hospital level, tuberculosis policies would continue to be talked about at a broader (global) level without the focus on implementation at grassroots level. Strategies should be put in place to encourage professional nurses' ownership of policies.

Correspondence address:

Professor M. Davhana-Maselesele
NWU (Mafikeng Campus)
P/Bag X2046
Mmabatho
2735

Tel: (018) 389-2050

Fax: (018) 389-2052

Email: mashudu.maselesele@nwu.ac.za

Introduction

Tuberculosis (TB) is a communicable, potentially deadly disease that usually affects the lungs, but can also affect other parts of the body. It spreads through droplet infection when a person with active TB breathes out bacilli, which are then inhaled by another person. Tuberculosis is treatable and usually curable, although new drug-resistant strains are appearing that are difficult to treat. It is vital that TB patients follow their treatment regimen faithfully and take all medication as directed, for as long as directed, or the disease can recur in a drug-resistant form (DOH, 2003:3).

Tuberculosis remains one of the leading infectious diseases and causes illness and death worldwide. Each year, about nine million people around the world succumb to TB infection. The World Health Organization (WHO) declared TB a global emergency in 1993 in recognition of the growing importance of TB as a public health problem. In 2004, there were an estimated 8, 9 million new cases of TB, of which approximately 3.9 million cases were sputum –smear positive, the most infectious form of the disease. Tuberculosis alone is responsible for close to 2 million deaths per year worldwide. Most of the TB burden occurs among the low-income countries of the world, particularly those in South-East Asia and Sub-Saharan Africa, where TB is often associated with Human immunodeficiency virus (HIV) infection (DOH, 2003:2).

Initially there were specialised TB hospitals, such as the South African National TB Association (SANTA). In a recent study conducted by Heunis, Van Rensburg and Meulemas (2007:4) regarding patients' experience of SANTA versus public hospitals in the Free State; it was found that patients preferred public hospitals. Some of the reasons stated had to do with the long periods of hospitalization at SANTA, having little privacy and limited opportunity to either express their culture or engage in recreation during long months of incarceration. It was therefore clear from the study that public hospitals and professional nurses would remain the core contact between TB patients and their treatment.

There are several well-documented factors fuelling the outbreak, including:

high treatment interruption rates of drugs-sensitive TB and consequent low cure rates, together with the HIV epidemic, lack of awareness and education amongst people with regard to TB, have contributed to the emergency of multi-drug resistant (MDR-TB) and extreme- drug resistant tuberculosis (XDR-TB).

MDR-TB is tuberculosis that is resistant to at least two of the most commonly prescribed medications, namely, rifampicin and isoniazid (Mvusi, 2007:4). This emergence could have served as an opportunity for people to learn more about this aspect of TB. Unfortunately, this was not given serious attention it deserved. It was only in 2006 with reports on the emergence of XDR-TB that people began to take interest Mvusi (2007:4). XDR-TB is MDR-TB plus resistance to at least three of the six classes of second-line agents (Mvusi, 2007:4).

Recently MDR-TB and XDR-TB have been posing new threats to regional and global public health. The situation has been further exacerbated by reports that XDR-TB was now considered endemic in KwaZulu Natal (KZN), as it has been reported in at least 39 hospitals throughout the province. Thirty new cases of XDR-TB are reportedly detected each month in KZN alone (Singh, Upshur & Padayatchi, 2007:116). In September 2006, WHO announced that a deadly new strain of extreme (XDR-TB) had been detected in Tugela Ferry a rural town in the province of KZN. According to the study conducted by Singh *et al* (2007:115) of the 544 patients studied in the area in 2005, 221 had MDR-TB. Of these 221 cases, 53 were identified as XDR-TB. This reportedly represents almost one sixth of all known XDR-TB cases reported worldwide. In fact, it could be said that the emergence of XDR-TB is the evidence of the systemic failure of the global community to tackle a curable disease (Singh *et al.*, 2007:116).

At the centre of TB management are nurses working either in hospitals or in primary health-care settings who should implement policies that are aimed at addressing TB. While efforts to move towards an integrated approach were highlighted and reinforced by National TB Control Policy (NTCP) guidelines, the process did not tackle the question of how to re-orientate a system based on specialised TB hospitals to an integrated

approach where nurses in general hospitals would be responsible for the care of TB patients. The process sidelined the role of hospital nurses and rather put emphasis on the role of the district health system. It is therefore necessary to include nurses in the evaluation of TB policies implementation. This study sought to evaluate the extent to which TB policies are implemented by professional nurses at a regional hospital in the Vhembe district of the Limpopo Province. Although the NTCP, MDR-TB and XDR-TB policies are available in South Africa (SA), there is very little contextual evaluation of its implementation. This study provides evidence of the extent to which the policies are implemented from the point of view of the professional nurses in medical wards of a regional hospital.

Problem statement

WHO report (2007) states that SA has the third highest TB epidemic on the continent for 2005 after Nigeria, Ethiopia, India and China. South Africa reports more than 100 000 TB cases yearly. This is an incidence rate of more than 500/100 000 population. Tuberculosis notification has been increased by 81% from 188.695 cases in 2005 to 342 315 cases in 2006. In 2006 Kwazulu Natal (104 705) had the highest total TB cases accounting for 31% of all TB cases nationally. South Africa "s main challenges in TB control are:

- Late presentation of patients to health facilities
- Late detection of TB, and
- High interruption rates (WHO, 2007:4).

According to the study conducted by Singh *et al* (2007:116) challenges fuelling The MDR-TB and XDR-TB outbreaks in SA is lack of infection control in the institutions, including the lack of simple administrative measures such as triaging of patients, as well as more sophisticated expensive environmental pressure rooms and personal respiratory protection.

While it is necessary to have an international collaborative venture to address TB policies, its greatest criticism has always been its failure to reach and be owned at grassroots level, hence its failure in implementation successes. Lack of involvement at grassroots led to TB issues been regarded as the "WHO

agenda” (Schneider, Ogden and Lush, 2003:16).

Professional nurses are at the core of implementation of TB policies, regardless of where they work. They are likely to be the first and probably the last persons to encounter TB patients in their various stages of disease including new patients and MDR-TB patients. While the creation of the TB directorate addressed significant issues relating to lack of focus and disintegration of TB services, one wonders how much contribution this has made to improve on the implementation of those policies by nurses. During the course of the study one seeks to determine the extent to which guidelines are being implemented.

Purpose of the study

The purpose of this study was to evaluate the extent to which TB policies are implemented by Professional Nurses in a medical ward in a regional hospital in the Vhembe District of the Limpopo Province.

Objectives

The objectives of this study were to:

- assess the availability, accessibility and utilisation of TB policies in the medical wards;
- explore the extent to which TB policies are implemented from the point of view of the professional nurses working in medical wards.

Design

The nature of the research was qualitative, explorative, descriptive and contextual (Polit & Hungler, 1996:175, 640 & 651). The study was explorative in that it intended to scrutinize and explore the in-depth richness and complexity, of the extent of implementation of TB policies by professional nurses working in the medical wards. The study was conducted within the context of a public hospital’s general medical ward.

Population and sampling

The sample hospital was selected from among the total number of seven hospitals in Vhembe District. Purposive sampling was applied. All community hospitals transfer patients to a regional

hospital for further management. The selected hospital is the only regional hospital within Vhembe District. More than ten professional nurses in each medical ward fitted the criteria. However, only those who volunteered to participate in the study actually participated. Professional nurses who had been working in medical wards for more than a year were chosen.

The sample size was determined by data saturation (Polit & Hungler, 1996:238), that is to the point where no new information was obtained and redundancy of information was achieved. Data saturation was reached after having interviewed 12 participants. In addition, those wards that had professional nurses participating in the study also provided the setting in which an observational checklist was used to answer some of the research questions and to validate some responses that participants had given.

Data collection

Data collection was done through the use of individual interviews, field notes and a checklist. The researcher used one central question as a point of departure: “To what extent are TB policies implemented in this ward?” Other questions followed as the interview progressed. The recorded raw data was transcribed for each participant by the researcher. A checklist developed by the researcher was used to check aspects such as the availability of policies in the ward, methods used to communicate policy issues and monitoring systems in place. As Burns and Grove (1995:395) indicate, checklists are techniques to indicate that behaviour occurred. Questions on the availability of TB policies, their accessibility in the ward or elsewhere in the hospital, professional nurses’ knowledge regarding what current TB policies contained and where to retrieve information about TB if and when needed, drove the interview process in all the interviews.

The researcher posed follow-up questions to explore an issue in greater depth. This allowed a reasonably constant comparison of responses that complemented the trustworthiness of the emerging issues, i.e. issues that were raised by the many voices in the sample. The researcher wrote observational field notes on account of the information that

was solicited, experiences, observations and thoughts in the course of collecting data. These entailed the descriptions of events experienced through watching and listening, focusing on: who, what, where and how of a situation. They contained as little interpretation as possible (Morse & Field 1996:913, Wilson, 1993:222).

Measures to ensure trustworthiness Lincoln and Guba’s (1985: 290) model of trustworthiness was applied. The four criteria, which are truth value (Credibility), applicability (transferability), consistency (dependability) and neutrality (conformability) were applied in this study. To ensure credibility the researcher had prolonged interaction with professional nurses in the Medical wards. Triangulation of data was enhanced by transcribing interviews verbatim, taking field notes, a checklist and conducting a literature control of the findings. A dense description of the research method was given to enhance transferability.

Ethical considerations

Permission to conduct the study was sought and obtained from the Research Ethics Committee of the Limpopo Provincial Department of Health and Social Development, Vhembe district Health Department and the regional hospital. The rights of the participants were protected and confidentiality and privacy were maintained (Burns & Grove, 1993:99). The names of the participating professional nurses were not recorded during interviews. Each professional nurse who completed the consent form was informed about the aims and the processes of the study. Permission was sought to record the interviews. Participation was voluntary and confidential and the nurses were informed about their freedom to withdraw from participation at any time. They were also informed that the information gained from the study was purely for research purposes and that it would not be used against them. The checklist and the broad interview question were provided so that they could evaluate whether it would be in their interests to participate (Polit & Hungler, 1997:137).

Data analysis

The researcher analysed data using Tesch’s method (Creswell, 1994:154) of

open coding, while constant comparison was employed to analyse the checklist data. Topics were abbreviated as codes and these were written next to the appropriate segments of the text. Related topics were grouped together to reduce the list of sub-themes. The identified major themes and sub-themes were coded and categorised (Creswell, 1994:154). A final decision was then taken regarding the wording for each theme. Data belonging to each theme was assembled as presented in the table (Creswell, 1994:154).

Four themes emerged from the data collected by the various means, i.e. observational checklist, interviews and field notes. Items from the checklist were compared with those of the other sources of data to establish common themes. Table 1 gives an outline of the themes that emerged.

Policy utilisation

Judgment regarding TB policy utilisation by professional nurses in the medical wards was made against the criteria of availability, accessibility, and knowledge of professional nurses regarding and what is contained in the current TB policy documents and where they are to be found, and the presence of monitoring and evaluation mechanism. These are discussed as follows:

Unavailability and inaccessibility of TB policies leading to insufficient information regarding existing TB policies

in the medical wards.

Upon visiting the wards, the researcher noticed that in most of the medical wards, there were no TB policies available. However, professional nurses appeared to know about the existence of such policies, but admitted that they never really read them or seen them except at a workshop or seminar. These are some of the responses by participants that evidenced the unavailability of TB policies in the ward:

“There is no TB policy. Maybe it is in the deputy manager’s office”. “I have not seen it before but I heard about it when I attended the TB workshop.” Another participant: *“Is only those who underwent TB training who have access to TB policies and information on how to implement the policies.”* *“I only know the National Tuberculosis Control Programme.”*

Participants also raised their concern about insufficient information related to existing TB policies. What seems to be the trend in the ward is an itemised protocol or standing orders for TB patients that professional nurses followed while taking care of the patients. These practices did not really encourage them to seek to understand and refer to the actual policy. It appeared that professional nurses who participated in the study relied on those standing orders or TB protocol and also on what they gathered from a workshop or seminar about TB. The unavailability of TB

policies on shelves and the response of participants led one to conclude that TB policy documents were inaccessible in the medical wards where TB patients were usually admitted. This raised the question of whether it could be trusted that professional nurses had enough knowledge at their disposal regarding the TB policies, its rationale, processes and what it set out to achieve or address. The following quotations revealed a worrying practice:

As one participant said, *“It is assumed that we know about these policies, but there is no policy, I have not seen the actual policy..”*

Another participant said, *“The policies should be familiarised to every professional nurses; newly appointed nurses must be oriented.”*

According to Maher (2003:2), NTCP in most countries have concentrated on promoting access to effective TB care. It should be easily accessible to the staff members who are managing TB patients for reference purposes as the policy acts as a guideline when executing duties. In this regard, one would therefore start questioning the implementation of a policy that is unavailable and inaccessible to the user. The other theme that emerged entailed problems relating to lack of knowledge of the existing TB policies regarding TB management which shall now be discussed.

Table 1 Summary of themes and sub-themes regarding implementation of TB policies

THEMES	SUB-THEMES
1. Policy utilisation in the ward	Unavailability and inaccessibility of TB policies leading to insufficient information regarding existing TB policies in the medical wards.
2. Lack of knowledge of the current TB policies among professional nurses who participated in the study	Ineffective information dissemination associated with insufficient workshops and lack of in-service training. Poor reporting mechanisms after workshops. Lack of interest and commitment.
3. Shortage of drugs that result in poor compliance	Lack of DOTS Supporters
4. A lack of monitoring and evaluation mechanisms associated with overcrowded and busy wards as opposed to specialised care in a TB ward.	Lack of continuous monitoring and periodic reviews.

Participants expressed problems associated with lack of knowledge of the existing TB policies regarding TB management.

Lack of knowledge among professional nurses who participated in the study is associated with the following sub-themes:

- Insufficient workshops and lack of in-service training
- Poor reporting mechanisms after workshops
- Lack of interest and commitment

• **Insufficient workshops and lack of in-service training**

Ineffective dissemination of information associated with insufficient workshops and lack of in-service training on policy issues and implementation strategies were identified as contributing to a lack of knowledge among professional nurses. Participants indicated that most of the professional nurses in the medical ward did not have knowledge regarding TB policy management, because they had never undergone any TB management workshop or in-service training. The following statements evidenced this:

"Maybe if all of us could be taken to the workshops it will broaden our scope of TB management and we will gain a lot of knowledge." "I think everybody should attend a workshop and in-service training so that everybody is clear about how TB policies are being implemented."

Most of the participants mentioned that, *"it is necessary that in-service training and workshops should be conducted for the nurses as well as for the private practitioners and doctors so that they can have enough information to manage TB following the NTCP."*

"Up to now I heard that they are conducting TB workshops at one of the health centres, but they are not frequently done". "You find that only two nurses in the ward attended the workshop. When they are not there in the ward patients are turned back. So let's train more nurses or everybody must be trained."

While in-service training and workshops were identified as the main mechanism for government to share policy

information, getting every professional nurse to attend the workshops was a challenge. By the time everyone had attended, new information was already coming up. The participants suggested that to close the gap it was necessary to train all the nurses so that they could render quality care to TB patients.

• **Poor reporting mechanisms after workshops**

Poor reporting mechanisms after attending and participating in a workshop exacerbated lack of knowledge and poor information dissemination. Participants indicated that those professional nurses who were fortunate enough to attend the workshops did not report after the workshop. This is evidenced by the following quotation:

"Nurses attend workshops and they come back and give report during morning report, that is all, and some do not give report, they keep quiet. The result is that all staff members know exactly what the workshop was about. All participants added: "You find that nurses who attended the workshop do not give report at all, some have the tendency of postponing and thereafter, no report". "We also have off duties problems sometimes you find that the person who attended workshop is on the other group and the groups only meet on Wednesdays then it is not easy to give full report for the other group"

Andi (2005:3) indicates that one of the challenges in SA is inaccurate recording and lack of sharing of TB notification data. This statement implies in essence that there is poor reporting, not only in this hospital but to such extent that is a recognised problem in the country.

• **Lack of interest and commitment**

The participants indicated that there was lack of interest and commitment on the part of some of the professional nurses concerning the implementation of TB policies. In each medical ward there were nurses who attended TB workshops and they were the ones to carry all the responsibility of TB patients in the medical wards, but they were not doing so. The following statement evidenced this: *"Patients referred to the hospital for collection of treatment from the clinic are also returned or lodged in the ward*

without treatment because the TB nurses were not around. They will be given treatment on the following day when the so-called "TB nurses" will be around, this was done by the professional who attended the workshop but never knows anything about the TB regimen."

"I think maybe it is because TB is infectious; that is why some nurses are not interested."

Participants recommended that it was necessary to check the interest of staff members before sending them for a workshop.

According to Achmat and Roberts (2005:20), the 2004, South African Health Review suggests some of the things that contributed to failure to implement NTCP as *"lack of TB management capacity, poor TB management systems and inadequately trained and motivated staff at district level"*.

Shortage of TB drugs which contributed to poor compliance

Participants reported concern regarding the shortage of TB drugs at the clinics and sometimes in the hospital setting, as well as lack of Directly Observed Treatment Short course (DOTS) supporters. One cannot address lack of TB treatment and separate it from the DOTS supporters. It was indicated that sometimes patients defaulted on treatment due to shortage of TB drugs in the clinic setting. The DOTS supporters could assist patients to follow up treatment before it was completely finished. Participants indicated that patients were coming back to the hospital to collect treatment instead of collecting it at the clinics. The following statement evidenced this: *"Shortage of TB drugs is the main problem that makes patients to default treatment." "Patients still come back to the hospital, for collection of treatment which is something we do not expect. This is so because patients explain to nurses at the hospital that there is no treatment at the clinic." "Patients from several areas reported that when they wanted to collect treatment in their local clinics there were no TB treatment."*

In the study conducted by Achmat and Roberts (2005:11) it was also stated that the South African TB control programme

was hindered by a rigid implementation of the TB guidelines, and also by inadequate TB facilities. The health-care facilities were ill equipped to implement the NTCP properly.

According to Collins, Andrew and Newell (2002:7) and Nhiwatiwa and Sepitla (2004:298), when drug supplies are interrupted, patients are likely to default or take only some of the drugs required for cure. This leads to recurrence of the disease and possible drug resistance with wider implications. It is further indicated that poor provision of drugs has been the great weakness of TB programmes. Again there is central procurement, which is often poor, and distribution to the periphery, which is weak.

DOTS is practised in the belief that by directly observing the patient consume all required medication, a full treatment regimen will be ensured, thereby reducing the risk of treatment failure (Nazar-Stewart and Nolan, 1992:58).

The DOTS strategy has proved to be more cost effective than conventionally delivered treatment for the treatment of new cases of TB in adults in SA (RSA, 2003/2004). However, there is a lack of DOTS supporters in some areas that results in patients' taking treatment without supervision. The following statements reflect the reported information:

"In some areas when you check you find that there is nobody who was trained as a DOTS supporter; so we cannot just take somebody who was not trained to supervise the patients."

"Patients are defaulting treatment, but up to now the other thing that makes the patients default is that there is nobody who is training the DOTS supporters in the community so that patients could have somebody who is supervising them." Another participant said, *"There is a shortage of DOTS supporters in some areas."*

De Villiers and Toms (2004:223) indicate that systems for supporting and supervising community-based volunteer DOTS supporters, especially those working in rural areas, have often been weak and such programmes have often proved unsustainable over time.

Since the participants indicated that TB

smear-positive patients were admitted at the ward for a short period and then further said that patients were nursed in the community, taking treatment supervised by the DOTS supporters, therefore there is a need for DOTS supporters to be trained in large numbers.

Lack of monitoring and evaluation mechanisms associated with overcrowded and busy medical wards as opposed to specialized care in a TB ward. When visiting the ward, the researcher asked questions regarding the monitoring and evaluation strategy. It was evident from the response of participants that no monitoring and evaluation plans were in place. Participants indicated that there were no periodic reviews on TB policy implementation except statistics, as the patients were defaulting on treatment. Interestingly, participants' response also assumed that the responsibility for monitoring and evaluation was that of either the government or management. This raised question of policy ownership between policy makers and policy implementers.

Some of the statements from participants were: *"Up to now evaluation is not done. The government must also revise their policies and must make sure that policies are evaluated in the hospitals. They must not just write the policies and leave them as they are. When policies are in place they should be reviewed."*

"It seems as if in my knowledge there is nobody who is responsible for TB policies implementation evaluation. They must do something for TB. When we were having TB wards they were being monitored very well."

In addition some participants felt that monitoring and evaluation was not done according to policy because TB patients were nursed with any other patients. The following quotations evidence this: *"Medical wards are full. One is supposed to attend to patients suffering from diabetes mellitus, heart failure and other medical conditions, maybe that is why there is lack of monitoring and evaluation."*

"Patients who are suffering from TB are still placed with patients who are suffering from diabetes mellitus whose immunity is lowered and other

conditions with lowered resistance. These patients may easily get infected with TB." Participants further stated that, *"in the medical wards where nurses are caring for patients with different diagnoses, they are unable to concentrate on TB patients only." It is important to have a separate TB ward for only TB patients unlike combining TB patients with Diabetic, cardiac conditions and Hypertensive patients". "The issue of phasing out TB wards created problems. This should be revisited again".*

One of the participants said: *"I think the government should ensure that there is a TB ward specifically for TB patients and special nurses who are trained to deal with TB. Then it will be easier to monitor TB policies implementation"*.

According to De Villiers and Toms (2004:213), policies, guidelines, indicators and monitoring mechanisms are in place, but are inconsistently applied. However the hospital should have in place review mechanisms and have some ownership of policy implementation. This would promote quality patient care, when there is programme ownership at grassroots level, involvement of staff at grassroots will be of great value as nurses are responsible in implementing the programme.

The monitoring system is supposed to be district based according to WHO and then send quarterly reports up to the central programme (WHO 2001:9; WHO: 2004; Schneider, Lush & Ogden 2003: 18). Bamford, Loveday and Verkuil (2002) indicated that there are policies, guidelines, indicators and monitoring tools that are in place, but are inconsistently applied. It was further stated that there was also lack of continuous monitoring of policies; these findings correspond with the research result that was done at the Mumbai, policy analysis and TB (Rangan & Porter, 2003: 6). In addition the study conducted by (Andi 2005: 3) revealed that there was lack of capacity at central level to monitor and supervise district programs.

Participants indicated that TB patients are not nursed accordingly as there is absence of dedicated staff to deal with TB and therefore, policy implementation and monitoring will not be possible.

Recommendations

Discussion on recommendations focused on two areas; namely to improve practice and for further research.

Recommendations to improve practice

There should be policy files available in the wards for reference purposes. Policies should be communicated to all staff. Since staff at grassroots level have to implement the policies immediately they become available, they should be familiarized with the existing policies, the content of the policies and also how to implement them. Initial orientation regarding TB policies and training of all health-care workers including students should be done and continuing discussions should take place. Professional nurses' skills should be continually updated through formal courses, workshops, in-service training conferences, seminars and symposia in order to improve their level of knowledge about TB policy management. Enough treatment drugs should be ordered from the drug suppliers. Communication between drug distributors and clinic/hospital/provincial stores is essential. Each clinic should maintain an uninterrupted supply of essential TB drugs. To ensure continuity DOTS supporters should be trained in large numbers and given support at all times. The patient should be told about the involvement of DOTS during hospitalisation, and that it should continue during the transfer period and into the community.

It is necessary that there should be evaluation mechanisms in place to assess the effectiveness of every programme. However, when the mechanisms are in place the responsibility should be with the end-user together with the policy makers. Jointly they can determine the strengths and the weaknesses of the policy and come up with strategies as to how best TB policies could be made more effective.

Information dissemination on policy implementation is required as it was clear that most of the policies are written and on the other hand those who have to implement those policies are not informed about the application; therefore are not known by the health workers at operational level.

Monitoring and evaluation tools should be developed and implemented at ward level. A working monitoring and evaluation committee should be established to ensure that this area of responsibility is allocated to a specific group of professional nurses who should be trained to do that effectively. These responsibilities could be rotated among different professional nurses to empower all staff members in this area

Recommendations for Research

Broader scientific research needs to be conducted, to identify other problems in connection with the TB policy implementation at local level in the Limpopo province.

It is also necessary that all policies that are related to patient's management need extensive scientific study to challenge their effectiveness and to monitor and evaluate their effectiveness. More research studies are required on policy analysis and utilization.

References

ACHMAT, Z & ROBERTS, RA 2005: Steering the storm: Tuberculosis & HIV in South Africa: A policy paper of the Treatment Action Campaign. Available from:

<http://www.who.int/tb/dots/whatisdots/en/> (Accessed 11 March 2005).

ANDI, P 2005: Barriers to tuberculosis. Available from:

<http://www.comminit.com/strategicthinking/st2001/thinking-461.html> (Accessed 13 June 2005).

BURNS, N & GROVE, SK 1993: The practice of nursing research: Conduct, critique & utilization. Philadelphia: Saunders.

BURNS, N & GROVE, SK 1995: The practice of nursing research: Conduct, critique & utilization. St Louis, Philadelphia: Saunders.

COLLINS, CD; ANDREW, TG & NEWELL, JN 2002: The relationship between disease control strategies and health system development: The case of tuberculosis. Health Policy. Volume 62, Issue 2, November 2002. 141-162. Available on Line 14 February 2002. Available from: <http://www.sciencedirect.com/>

science?_ob=ArticleURL&_aset=V-WA-A-W-V-MsSAYZA...(Accessed 3 February 2005).

CRESWELL, JW 1994: Research design: Qualitative and quantitative approaches. Thousand Oaks: Sage Publications.

DEPARTMENT OF HEALTH 2001: Epidemiological Comments Volume 4. South Africa.

DEPARTMENT OF HEALTH 2007: The Draft National Infection Prevention and Control Policy for Tuberculosis, Multi Drug Tuberculosis and Extreme Drug Tuberculosis. South Africa.

DE VILLIERS, CL & TOMS, I 2004: Management of pulmonary tuberculosis in nurses-based Cape Town Metropolitan Local Authority clinics. Available from: [Http://www.Stop.Org/Conference.Decla.Access,Html](http://www.Stop.Org/Conference.Decla.Access,Html). (Accessed 16 February 2005).

HEUNIS, JC; VAN RENSBURG, HCJ & MEULEMAS, H 2007: SANTA vs Public hospitals: the patient's experience in the Free State, 2001/2002. *Curationis* 30(1)4-14.

JEROME, AS; ROSS, U & NESRI, P 2007: XDR –TB IN SOUTH AFRICA. Available online *PLoS Medicine*?www.plosmedicine.org

KELLY, P 1999: Isolation and stigma: The experience of patients with active tuberculosis. *Journal of Community Health Nursing*. 16 (4) 233-241.

KHAN, A; WALLEY, J; NEWELL, J & IMDAD, N 2000: Tuberculosis in Pakistan: Social-cultural constraints and opportunities in treatment. *Social Science & Medicine*. 50:247-254.

LINCOLN, YS & GUBA, EG 1985: Naturalistic inquiry. London: Sage Publications.

MAHER, D 2003: The role of the community in the control of tuberculosis. Available from: http://www.sciencedirect.com/science?_ob=ArticleURL&_aset=B-WA-A-B-EV-MsSAYW... (Accessed 6 February 2004).

MORSE, MJ & FIELD, AP 1996: Nursing research, the application of

qualitative approaches. 2nd Edition. Great Britain: Stanley Thomas Publishers.

MVUSI, L 2007: Tuberculosis workshop. Professional Nursing Today Official Journal of the Forum for Professional Nurses Leaders. 11(2) 1607-6672

NAZAR-STEWART, V & NOLAN, CM 1992: Results of a directly observed intermittent isoniazid preventive therapy program in a shelter for homeless men. American Review of Respiratory Disease. 146:57-60.

NHIWATIWA, R & SEPITLA, C 2004: Outcome of hospital-based tuberculosis in the Goldfields area. Volume 94, No 4 SAMJ.

PATTON, MQ 2002: Quantitative evaluation and research methods. London: Sage Publishers.

POLIT, DF & HUNGLER, BP 1996: Nursing research principles and methods. 4th Edition. JB. Philadelphia: Lippincott Co.

POLIT, DF & HUNGLER, BP 1997: Essentials of nursing research; methods, appraisal. 5th Edition. JB. Philadelphia: Lippincott Co.

REPUBLIC OF SOUTH AFRICA, DEPARTMENT OF HEALTH 2001: National Tuberculosis Control Programme of South Africa. Pretoria.

REPUBLIC OF SOUTH AFRICA, TUBERCULOSIS PROGRAMME 2003: Dots stop TB at the source. WHO report on the TB epidemic. Department of Health: South Africa.

REPUBLIC OF SOUTH AFRICA, TUBERCULOSIS PROGRAMME AT A DISTRICT LEVEL 2007: A Manual for Medical Practitioners. WHO report on the TB epidemic. Department Of Health: South Africa.

SCHNEIDER, H; OGDEN, J & LUSH, L 2003: An analysis policy transfer in South Africa. Centre for Health Policy: Witwatersrand, SA. Available from: [Http://www.Wits.Ac.Za/Chp/Docs/R202_R203.Pdf](http://www.Wits.Ac.Za/Chp/Docs/R202_R203.Pdf). (Accessed 15 August 2005).

SCRIVEN, M. 1991. Evaluation Thesaurus. London: Sage Publishers.

SINGH, JA; UPSHUR, R & PADAYATCHI, N 2007: Extensive drug resistance Tuberculosis in South Africa: No time for denial or complacency. Plos Med 4(1);e50.doi:10.1371/journal.pmed.0040050

WILSON, HS 1993: Introduction to research in nursing. 2nd Edition. Benjamin/Cummings Publishing Company, Inc.

WORLD HEALTH ORGANIZATION 2007: Extensively drug-resistant tuberculosis the facts Global Plan to stop Tuberculosis. Geneva: Who www.who.int/tb