2018

Perceptions of Private Medical Practitioners towards the Nigerian National Tuberculosis Treatment Guidelines

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Abstract

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MSc, Heidelberg University, Germany, 1998

MB., Bch, University of Calabar, Nigeria, 1989

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health-Community Health

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Abstract

Tuberculosis (TB) is a major public health problem in many parts of the world. Nigeria is one of the 30 countries in the world that has the highest burden of TB. Private medical practitioners in Nigeria play an important role in health care delivery. Motivating them to adhere to TB treatment guidelines in managing persons suspected of having TB or diagnosed with the disease is one of the strategies employed by the National Tuberculosis Program to Reduce the Burden of TB. Few studies were identified which used qualitative study approaches to study the perceptions of these practitioners towards the TB treatment guidelines. The overarching question asked the study participants centered on eliciting their perceptions towards the guidelines. Guided by the theory of planned behavior, this qualitative narrative study explored the perceptions of private medical practitioners in Anambra State, Nigeria towards the Nigerian National TB Treatment Guidelines. To elicit these perceptions, in-depth interviews were conducted on 11 purposefully selected practitioners. Data analysis comprised coding of data obtained and extracting themes from them. The QSR Nvivo 11 helped to manage data. The main finding of the study was that the practitioners perceived the treatment guidelines to be adequate to meet most of their needs in the diagnosis and treatment of TB patients. Other key findings were that provision of financial incentives and regular training will motivate collaboration with the TB program and adherence to the guidelines. Positive social change may occur by insight being gained into how private medical practitioners view the treatment guidelines and how this knowledge will lead to improved management of TB patients. This may in turn result in the reduction in the morbidity and mortality associated with TB in Nigeria.

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Dedication

This dissertation is dedicated to the almighty God who gave me the strength and health to make it to the end. This dissertation is also dedicated to my wonderful wife, Eucharia Osakwe, for constantly reminding me that I can make it. Also, this dissertation is dedicated to my children (Uche, Chiamaka, Chidinma, Chijioke, and Chimazuru) who patiently bore with me as I burned the midnight oil. My mother, Chidi Osakwe, who, though she could not understand why a medical doctor will still want to obtain a doctorate degree, kept praying for me to accomplish my dream in life. My late father, who missed the opportunity to have an education because of lack of funds, until his death, kept urging me to soar to the highest height in academics.

Finally, I wish to dedicate this dissertation to Leprosy and Tuberculosis patients. You have given me a reason to live and I will continue to contribute my part towards the eradication of these diseases.

Acknowledgments

I wish to thank Dr. Cheryl Anderson, my dissertation chair, for patiently guiding me through the dissertation. You were always lovingly nudging me on to continue progressing with the dissertation journey. Your excellent, experienced, and timely feedback ensured that I advanced with my work as fast as I could. I also wish to thank Dr. Phuong Trang Huynh, my committee member, for her thoroughness in reviewing my work and providing timely feedback to me. Dr. Sriya Krishnamoorthy, my URR reviewer, always provided useful feedback to me and ensured that my work was returned within the stipulated time frame.

Finally, I wish to thank the private medical providers in Anambra State, Nigeria, who, despite their busy work schedules, volunteered and provided useful information that answered the research questions of the study. I assure you, that in line with Walden University's promotion of positive social change, the outcome of this study will impact positively on the collaboration between the Nigerian TB program and private medical practitioners.

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Chapter 1: Introduction to the Study

Introduction

Tuberculosis (TB) remains a global threat. In countries like Nigeria, physicians and other health care providers are challenged with providing adequate TB care (Adejumo et al., 2016). Approximately 407,000 cases of TB occur each year in Nigeria (World Health Organization [WHO], 2017). The disease causes about 115,000 deaths each year in the country (WHO, 2017). The chronicity of TB remains a problem as well and, unless addressed, will continue to result in increased morbidity and mortality in the country.

Chronic infectious diseases like TB will remain major public health problems if appropriate control measures are not applied in the management of persons affected by the disease. One such measure is the development of guidelines for the management of TB patients. Yahaya, Olorukooba, Ibrahim, Abdulrahman, and Amadu (2016) noted that these guidelines serve to ensure that TB patients are managed by both public and private medical practitioners in line with local and international best practices that would result in good TB treatment outcomes. Engaging practitioners to use the guidelines would contribute to the realization of national and global TB control targets.

Despite the usefulness of the TB treatment guidelines, not much is known about the perceptions of private medical practitioners (PMPs) towards these guidelines. Studies on the use of TB guidelines by PMPs tended to concentrate on the knowledge and practices of PMPs regarding the guidelines (see Bharaswadkar et al., 2014; Damore, Rajesh, & Nair, 2012; Mahendradhata et al., 2015; Naidoo, Naidoo, Gathiram, & Lalloo,

2013; Otu, 2013; Zheng, Zhong, & Zhang, 2014). Studies that looked on the perceptions of medical practitioners towards the TB guidelines included that of Wen, Fang, and Yang (2014), Thomas et al. (2016), and Mala, Moser, Dinant, and Spigt (2014). The paucity of research that studied the perceptions of PMPs towards the TB guidelines is the gap in the literature explored in this study. Eliciting these perceptions provided insight into the reasons for adherence or nonadherence to these guidelines by PMPs and would form the basis for further research on increasing the use of the treatment guidelines for practitioners.

This chapter consisted of the following sections: Background, problem statement, purpose of the study, research questions, theoretical and conceptual framework for the study, nature of the study, definitions, assumptions, scope and delimitations, limitations, and significance of the study.

Background

TB has for centuries been a major cause of illness and death for people in every continent of the world. TB is a chronic infectious disease caused by the organism, Mycobacterium tuberculosis (Adeiza, Abba, & Okpapi, 2014; Lienhardt et al., 2012; Sharma & Mohan, 2013). TB primarily affects the lungs but can also affect any organ of the body (Adeiza et al., 2014; Narasimhan, Wood, MacIntyre, & Mathai, 2013; Sharma & Mohan, 2013). The disease is transmitted through inhalation of infectious droplet nuclei and spread by untreated or inadequately treated persons when they cough, sneeze, sing or talk (Adeiza et al., 2014; Narasimhan et al., 2013; Sharma & Mohan, 2013). Persons in close contact to those affected by the disease are at most risk of contracting the

disease (Adeiza et al., 2014; Narasimhan et al., 2013; Sharma & Mohan, 2013). It is estimated that about one third of the world's population is infected with TB, though only about 5-15% of people will develop active TB in their lifetime (Adeiza et al., 2014; Glaziou, Falzon, Floyd, & Raviglione, 2013; Narasimhan et al., 2013). The goal of national tuberculosis programs (NTPs) is to reduce the number of people developing TB and dying from the disease (Lienhardt et al., 2012).

Despite efforts at controlling TB globally, TB incidence and mortality is still high in many developing countries. It was estimated that about 10.4 million people developed TB in 2016 and 1.3 million people died from the disease in the same year (WHO, 2017). The incidence of TB is highest in persons with HIV and they have been found to have a cumulative 30% or higher percentage in terms of life time risk of developing TB compared with a cumulated five to ten percent in non-infected individuals (Adeiza et al., 2014; Sharma & Mohan, 2013; Trinh et al., 2015). The highest burden of TB is in India, Indonesia, China, the Philippines, and Pakistan (WHO, 2017). Together, these countries contributed 56% of the estimated new TB cases in 2016 (WHO, 2017). In Nigeria, approximately 407,000 cases of TB occur each year, with about 115,000 deaths (WHO, 2017). There is hope that the burden of this curable disease can be reduced if effective public health measures are employed in the control of the disease.

Development of standard TB treatment guidelines is one of the public health measures that will help to increase the cure rate of TB patients, thereby reducing the burden of the disease. The treatment outcome of patients was found to be good when medical practitioners (MPs) adhere to standard treatment guidelines in treating TB

patients (Adejumo et al., 2016; Naidoo et al., 2013; Wen, Fang, & Yang, 2014). Conversely, nonadherence to recommended guidelines has been associated with poor TB treatment outcomes (Achanta, 2013; Adejumo, 2015). PMPs are often guilty of nonadherence to TB guidelines (Chiang, Weezenbeek, Mori, & Enarson, 2013; Satyanarayana et al., 2015; Wells, Uplekar, & Pai, 2015). Few studies were identified to date which used qualitative study approaches to study the perceptions of PMPs towards TB treatment guidelines. Obtaining the perceptions of PMPs towards the TB guidelines would help to offer explanations about the factors responsible for their adherence and nonadherence to the guidelines.

Problem Statement

TB is an international public health threat. To combat this disease, many countries have developed TB treatment guidelines to aid health care providers in the management of TB patients (Wang, Shen, Shi, & Chiou, 2014). Adherence to these guidelines by MPs has been found to improve the management of TB (Adejumo et al., 2016; Wen et al., 2014; Naidoo et al., 2013). Failure to adhere to the guidelines was responsible for delay in TB diagnosis for 58% of patients in South Africa (Naidoo et al., 2013). The delay in the diagnosis was attributed to practitioners ordering so many medical tests which prolonged the time between presentation to health facilities and diagnosis of TB (Narasimhan et al., 2013; Hopewell, Fair, & Uplekar, 2014; Sreeramareddy et al., 2014). Adherence to TB treatment guidelines is critical to improved TB patient management and better treatment outcomes.

Adherence by PMPs to TB treatment guidelines is often a challenge for NTPs. Achanta et al. (2013) in their study of MPs in a private medical college in India reported that less than 6% of the practitioners were adhering to the national TB guidelines in the management of TB patients. Similarly, Bharaswadkar et al. (2014) in their study among physicians in the private sector reported that the physicians were not integrating the TB treatment guidelines into their own practices. Zheng, Zhong, and Zhang. (2014) also reported that in China, less than 25% of doctors were adhering to the NTP guidelines in managing TB patients. It is pertinent to unravel the factors responsible for the nonadherence to treatment guidelines by PMPs.

Many reasons have been cited for this nonadherence. These include lack of knowledge by the practitioners about the TB guidelines, too many guidelines being developed for many health problems, the complex nature of some of the guidelines, and lack of motivations for the PMPs to use the guidelines (Adejumo et al., 2016; Faber, Naughton, & Hogart, 2014; Kastner et al., 2014; Mala, Moser, Dinant, & Spigt, 2014; Naqvi et al., 2012; Solà et al., 2014). Understanding the factors related to adherence or nonadherence of PMPs to TB treatment guidelines is key to improving the use of the guidelines.

Few studies have been done to find out the perceptions of PMPs towards the TB treatment guidelines. The paucity of adequate published work on the topic of study represents a gap in the literature. My study investigated this gap by exploring the perceptions of current private practitioners (PPs) in Nigeria towards the use of the Nigerian National TB Treatment Guidelines (NNTTG).

Purpose of the Study

The purpose of this qualitative narrative study was to explore the perceptions of PMPs in Nigeria about the NNTTG. The research was embedded in the social constructivist paradigm. In this paradigm, the researcher attempts to articulate the meanings of the experiences of the study participants regarding the phenomenon of study and extracts common patterns and themes from these meanings. The perceptions elicited from PMPs about the NNTTG would inform further research on effective strategies for ensuring their use of these guidelines in managing TB patients.

Research Questions

RQ1: What are the perceptions of PMPs towards the NNTTG?

RQ2: What are the experiences of PMPS with using the NNTTG?

RQ3: What are the incentives, barriers, motivations, and demotivations for PMPs to manage TB patients in line with the NNTTG?

Theoretical Framework

The theoretical framework for the study was the theory of planned behavior (TPB) by Icek Ajzen. The main constructs of the theory are centered on beliefs, attitudes, intentions, and behaviors of individuals and how they interact to affect decision making (Glanz, Rimer, & Viswanath, 2008; National Cancer Institute [NCI], 2005). At the core of the theory is that behavioral intention is a major determinant of behavior performance (Ajzen, 1991; Glanz et al., 2008; NCI, 2005). This theory has found application in qualitative studies where in-depth interviews were employed to elicit beliefs, attitudes,

intentions, behaviors, and the factors affecting the phenomenon of interest (Glanz et al., 2008; Rashidian & Russell, 2012).

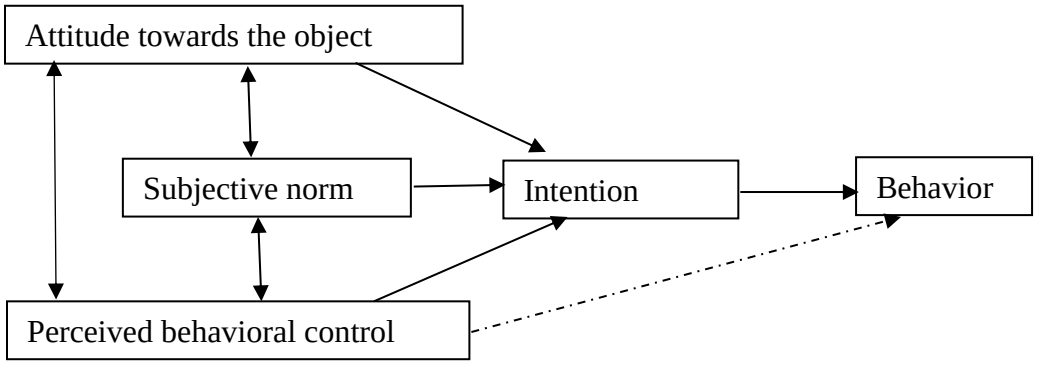

*Figure 1***.** The Theory of Planned Behavior

Nature of the Study

This was a qualitative study utilizing the narrative approach. Researchers employ the narrative approach to elicit the meanings of the experiences study participants have about the phenomenon of interest, as lived and told by them (Creswell, 2013). In the study, the narrative approach was used to elicit the views and experiences of PMPs with regards to the NNTTG. In-depth interviews were conducted among selected PMPs to elicit their perceptions about the phenomenon that was studied.

Data collected from the interviews were analyzed manually and with the help of QSR NVivo qualitative analytical software. Using both methods, emerging themes and patterns were identified.

Definitions

Guideline adherence: Conformity in fulfilling or following official, recognized,

or institutional requirements, guidelines, recommendations, protocols, pathways, or other standards (Reference.md, n.d.).

Perception: Professional attitudes, practices, and experiences towards a particular phenomenon (Barfoed et al., 2015; Bell et al., 2012).

Private Medical Practitioners: For-profit as well as not-for-profit health care providers outside the formal public sector (Lonroth, Uplekar, & WHO, 2003).

Private sector: Organizations, businesses, and individuals that are not part of the governmental services. It comprises individual formal and informal private practitioners, for-profit private hospitals and academic institutions, the corporate sector, and the voluntary or nonprofit sector, which includes charitable or nongovernmental organizations (NGOs) (WHO, 2015).

Public−private mix (PPM): All partnership mixes between organizations, businesses, and individuals that are part of the public sector or private sector. The partnership can be public–public, public–private or private–private (WHO, 2015).

Treatment guidelines: Systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances (Field & Lohr, 1990).

Tuberculosis: An infectious disease caused by the bacillus *Mycobacterium tuberculosis* (Sharma & Mohan, 2013).

Assumptions

One of the assumptions of the study was that PMPs will perceive that TB treatment guidelines are cumbersome and would not fit into the realities of private

practice in Nigeria. Another assumption was that the PMPs see the guidelines as a ploy by the government to control their practice. A further assumption was that private practice is profit-oriented and PMPs fear that adhering to the guidelines would reduce the monetary profit they will make from treating TB patients. These assumptions are pertinent because they are critical to the use of the guidelines by the practitioners and subsequent good outcomes for patients treated in private health facilities.

Scope and Delimitations

The study was limited to the perceptions of PMPs towards the NNTTG. It elicited the views of the practitioners towards the guidelines and their personal experiences with using the guidelines. Without this knowledge, NTPs would not be able to conduct future studies that will identify strategies to increase the use of the guidelines by PMPs. Using the TPB, these perceptions were elicited, and meanings were given to their experiences regarding using the guidelines.

The study was limited to PMPs practicing in Anambra State, Nigeria who had been exposed to the NNTTG. PMPs who had never collaborated with the National Tuberculosis and Leprosy Control Program (NTBLCP) in managing TB patients and who had no knowledge of the NNTTG were excluded from the study. The study can be easily replicated in other settings since there is only one TB program in Nigeria and TB treatment guidelines are only developed and issued by the NTBLCP.

Limitations

A limitation of studies using an approach like the narrative one, as noted by Creswell (2013), is to identify persons that have been exposed to the central phenomenon

being studied. This is pertinent in the Nigerian situation since there is yet limited involvement of PMPs in the TB control program. Daniel, Adejumo, Abdur-Razzaq, Adejumo, and Salako (2013) reported that in Lagos State, Nigeria only 1% of PMPs were involved in the Nigerian TB program. Creswell (2013) pointed out that the researcher's experience and knowledge of the area of study might influence the interpretations of the findings of the study and saw this as a limitation in qualitative research. I am involved in encouraging collaboration between the public and private sectors regarding TB control in Nigeria and this has the potential of influencing the interpretations that I might give to the views of the study participants.

Epoche or bracketing entails the researchers subjugating their understanding and personal views of the phenomenon being studied and becoming neutral in the interpretation of the research findings (Creswell, 2013; Patton, 2015). A further limitation is that the chosen qualitative approach may not yield enough information-rich responses, thereby failing to adequately explain the central phenomenon of the study.

Significance

The study would contribute to the knowledge of the perceptions of PMPs towards national TB guidelines. Developing a dissemination plan that targets public health authorities, policy makers, and relevant stakeholders in the public and private sectors will stimulate further research on strategies that would best increase the buy-in of the guidelines by PPs. The study would equally help to expound on the challenges faced by the PMPs in using the treatment guidelines in their practices. Identifying such challenges

and developing plans for relevant stakeholders in the public and private sectors would inform research that would address the challenges.

Use of national TB treatment guidelines in the management of TB patients is critical to obtaining good patient outcomes which are manifested through decreased morbidity and mortality rates due to TB (Adejumo et al., 2016; Naidoo et al., 2013; Wen et al., 2014). It would also enhance the attainment of set goals and targets by NTPs. Use of treatment guidelines would guard against unnecessary investigations and treatment that increase the overall cost borne by patients when seeking treatment for TB (Bharaswadkar et al., 2014; Nepal, Shrestha, Baral, Bhattarai, & Aryal, 2012). The effect of managing TB patients outside the recommended guidelines is seen in increased mortality and morbidity rates due to TB and the development of drug-resistant TB (Achanta, 2013; Adejumo, 2015). To decrease the suffering and death associated with TB, it is imperative that MPs utilize recommended TB treatment guidelines in the management of TB patients.

Summary

TB has remained a serious public health problem despite efforts to eliminate the disease. TB treatment guidelines were developed by the World Health organization (WHO) and adapted by many countries to aid practitioners in the management of TB patients. These guidelines are either not used by practitioners in the management of TB patients or poorly adhered to. Strict adherence to the guidelines in the management of TB patients leads to good treatment outcomes, while nonuse or poor adherence to the guidelines results in poor treatment outcomes in the form of increased morbidity and

mortality from TB. The WHO (2016), for instance, is worried that the private sector is contributing to the rise in multi-drug resistant TB (MDR-TB) through poor adherence to TB treatment guidelines in the management of TB patients.

Despite the concern that there is poor adherence to TB treatment guidelines in managing TB patients by PMPs, few research have looked at the perceptions of the PMPs towards the guidelines. This study elicited these perceptions from the PMPs in Anambra State, Nigeria. To achieve this, the study used qualitative research methods, embedded in the narrative approach. The study would add to the existing literature on the perceptions of PMPs towards the NNTTG. The views elicited from the PMPs would inform further research regarding the most effective strategies to increase the use of TB treatment guidelines by practitioners in the private sector. Increased use of the guidelines would result in good TB treatment outcomes. This would in turn contribute to the reduction in the morbidity and mortality associated with TB.

In Chapter 2, a deeper insight into the issues already highlighted in the current chapter is presented. With the aid of published literature related to the study topic, various aspects of the research topic are explored in much detail. In Chapter 3, the research design, the role of the researcher in the study, and the detailed methodology for the study are outlined.

Chapter 2: Literature Review

Introduction

Chapter 2, the review of current literature, provided an exhaustive investigation into the research available TB and perceptions of PMPs towards the TB treatment guidelines. This chapter is divided into 10 sections. The first section presented the search strategy used to secure the needed literature. The second section analyzed the theoretical foundation underpinning the study. The third section described the background of TB while the fourth section presented the global and local burden of TB. In the fifth section, the PPM in TB control was explained. The sixth section examined treatment guidelines in disease management in general and TB in particular.

The perception of MPs regarding treatment guidelines was investigated in the seventh section, while in the eighth section, the investigation was narrowed down to treatment guidelines. The various qualitative studies that have been carried out regarding the perceptions of MPs towards TB treatment guidelines were analyzed in the ninth section. The 10th section provided the summary and conclusions of the literature review chapter. Organizing the literature search through these various sections assisted in retrieving articles that are relevant to the topic of study. Reviewing the identified articles helped to identify gaps in the literature regarding the study topic and assisted in providing a justification for the study.

TB has remained a major public health challenge in many developing countries despite advances in the diagnosis and treatment of the disease (Zumla, Raviglione, Hafner, & von Reyn, 2013). To improve the diagnosis and management of the disease,

many countries have developed national TB guidelines (Anowar, Petpichetchian, Isaramalai, & Klainin-Yoba, 2013; Berti, Galli, Venturini, de Martini, & Chiappini, 2014; Horsburgh, Barry III, & Lange, 2015; Méchaï et al., 2015; Murrison et al., 2016; Nahid et al., 2016; Pethani et al., 2013; Tafuma, Burnett, & Veld, 2014; Wang et al., 2014). Adherence to these guidelines by MPs has been found to improve the management of TB patients (Adejumo et al., 2016; Wen et al., 2014; Naidoo et al., 2013). Nonadherence to these guidelines by practitioners in both the public and private health could deprive TB patients of affordable, effective, and efficacious TB treatment (Adejumo et al., 2016; Bharaswadkar et al., 2014; Naidoo et al., 2013). Unearthing the factors responsible for PMPs' nonadherence to TB treatment guidelines would boost the efforts of NTPs in collaborating with the private sector regarding TB control.

Some of the factors responsible for the nonadherence to TB treatment guidelines include lack of exposure of practitioners to treatment guidelines, multiple guidelines in use, and voluminous and complex guidelines (Adejumo et al., 2015; Faber et al., 2014; Mala et al., 2014; Solà et al., 2014). Research on how PMPs perceive the guidelines would enable insight to be gained into reasons for the nonadherence. This study investigated the perceptions of PMPs in Anambra State, Nigeria towards the NNTTG.

Search Strategy

Search strategies included the use of the Walden University Library databases. Articles published in the English language from 2013 to 2017 were used for the literature review. Articles that were older than 5 years were also reviewed when they represent classical works, as in the case of theoretical frameworks. The databases included

Academic Search Complete, CINAHL Plus with Full Text, Cochrane Library, EBSCOHost, Google Scholar, Health and Medical Complete, MEDLINE with Full Text, CINAHL and MEDLINE Simultaneous Search, ProQuest, PsycINFO, PubMed, and SAGE Full-Text Collection. Internet sources for the literature search included web pages from the WHO, American Thoracic Society, American Lung Association, and the Centers for Disease Control (CDC). The keywords and medical subject headings used in retrieving the literature were *tuberculosis*, *treatment guidelines*, *TB guidelines*, *clinical guidelines*, *medical practitioners*, *private practitioners*, *perceptions*, *adherence*, and *guideline adherence.*

Theoretical Foundation

The theoretical framework underpinning the study was the TPB. The TPB was borne out of the need for a conceptual framework that explains, predicts, and influences the social behavior of individuals (Ajzen, 2012). Ajzen (1991) posits that the TPB centers around behavioral intention and which is key to the performance of a specific behavior (Ajzen, 1991).

Origin of the Theory of Planned Behavior

The TPB, which is a modification of the theory of reasoned action (TRA), was developed by Icek Ajzen in 1985. The key constructs of the theory are behavioral intention, attitude, subjective norm, and perceived behavioral control. The theory postulates that behavioral intention is influenced by attitude, subjective norm (social pressure), and perceived behavioral control (Azjen, 1991; Ajzen, 2004; Glanz et al., 2008; NCI, 2005; Rashidian & Russell, 2011; Rashidian & Russell, 2012). An

understanding of the constructs of the theory is central to eliciting the perception of PMPs towards the NNTTG.

Attitude deals with the individual's analysis of the behavior to be performed (Ajzen, 1991; Glanz et al., 2008; NCI, 2005; Rashidian & Russell, 2012). Ajzen (2005) further envisioned attitude as the positioning of an individual to react positively or negatively to an item, individual establishment, occasion, or the performance of a particular health behavior. Rashidian and Russell (2012) posited that attitude can take the form of the perceived behavioral beliefs (consequences of the behavior) or outcome evaluations (how the individual evaluates these consequences). According to Anderson (2004) a favorable attitude towards the performance of an action is dependent on how strongly the individual feels that the outcome will be positive. Ajzen (2004) noted that critics of the attitude construct in the TPB are of the view that attitudes can not only be viewed as emotional responses but also as reasoned reactions to a behavior.

Subjective norms deal with whether the behavior is approved or disapproved by a person or individuals who have an influence on the person performing the behavior (Ajzen, 1991; Ajzen, 2011; NCI, 2005; Rashidian & Russell, 2012). It is perceived as dependent on what the person involved expects to be the outcome of the behavior to be performed and the drive to perform the behavior (Anderson, 2004). The perceptions of particular influential referents about the behavior to be performed have a strong influence on whether the individual will perform the behavior or not (Anderson, 2004). In criticizing subjective norms in the TPB, Ajzen (2004) remarked that the construct is

complex as it includes mandatory behaviors expected from an individual by an establishment or legal system and those that are under the person's volitional control.

The major difference between the TPB and TRA is the addition of perceived behavioral control into the TPB. Perceived behavioral control was coined because the TRA could not sufficiently account for behaviors which were not directly under the control of the person performing the behavior (Ajzen, 1991; Glanz, Rimer, & Vismanath, 2008). The underlying assumption in perceived behavioral control is that individuals would perform a behavior if the behavior is under their control (Ajzen, 1985; Azjen, 1991; Ajzen, 2012; Glanz &NCI, 2005). It proposes that individuals would strive to perform a behavior if there are no constraints to their doing so (Ajzen, 1991; Glanz, NCI, 2005). Constraints to performing a particular behavior could be time, money, abilities, and the willingness of peers or associates to support the performance of the behavior (Ajzen, 1991; Ajzen, 2004; Solà et al., 2014). A limitation of the perceived behavioral control is that both the confidence to perform a behavior and the ability to control the behavior are both subsumed in the construct (Ajzen, 2004).

The TPB affirms that; with the right attitude, positive subjective norm, and high perceived behavioral control, an individual is likely to satisfactorily perform a behavior (Ajzen, 1991; Ajzen, 2004; Ajzen, 2011; Ajzen, 2012; Ajzen, 2013). Ajzen (1991) mentioned that behavioral achievement can be accurately predicted if perceived behavioral control is combined with behavioral intention. An important aspect of the TPB is that it takes cognizance of the fact that performance of a behavior is hinged on so many factors like culture and environment, and not just on a single factor (Ajzen, 1991; Glanz

& NCI, 2005). Depending on the situation, each of the constructs of the theory can be responsible for the individual's intention to perform a behavior (Ajzen, 1991; Anderson, 2004). Ajzen (2012) remarked that a major limitation of the TPB is that habituation and automaticity might make the performance of a particular behavior not to be dependent on the constructs of the theory. Exploring all these constructs of the TPB would help to explain the perceptions of PMPs towards the NNTTG.

Theoretical application of the Theory of Planned Behavior

Before applying the TPB to specific situations, it is vital to clearly identify the behavior or behaviors that are to be explained, predicted, and/or influenced and the specific population under consideration (Anderson, 2004). Ajzen (2004) reported that the TPB has found application in diverse aspects of medical practice and health prevention and promotion activities. He noted that the theory was equally used to study the compliance of medical personnel to medical regimens. The TPB has also been used extensively to study the performance of specific behaviors by health care practitioners (Addisu, Birhanu, Tilahun, & Assefa, 2014; Gagnon, Cassista, Payne-Gagnon, & Martel, 2015; Nelson, Cook, & Ingram, 2014; Rashidian & Russell, 2011; Rashidian & Russell, 2012). Rashidian and Russell (2011) and Rashidian and Russell (2012) used the theory to explain the behaviors of general practitioners towards prescribing for Asthma and statin prescribing respectively. Ajzen (2004) found that the TPB has a good predictive value. The theory can thus be used to study the behavioral intentions and attitude by PMPs towards TB treatment guidelines.

Using the constructs of behavioral intention, attitudes, subjective norms, and perceived behavioral control, the researchers were able to elicit that one construct or a combination of constructs was critical in predicting the likelihood of the performance of specific behaviors by health care practitioners (Addisu et al., 2014; Gagnon et al, 2015; Nelson et al., 2014; Rashidian & Russell, 2012). Studies conducted using the construct of perceived behavioral control included that of Nelson, Cook, and Ingram (2014), Gagnon, Cassista, Payne-Gagnon, and Martel (2015), Rashidian and Rusell (2011), Rashidian and Russell (2012), and Schellart, Zwerver, Anema, and van der Beek (2013). The authors found that perceived behavioral control played an important role in the intention of health care providers to adhere to clinical guidelines. Addisu, Birhanu, Tilahun, and Assefa (2014) in Ethiopia, however, did not find that perceived behavioral control influenced the participants' treatment seeking behavior but rather that behavioral intention and attitude played a key role in determining the performance of a behavior. Schellart et al. (2013) in their study also did not find that behavioral intention played any role in the performance of a behavior. This is in tandem with the finding of Gagnon et al. (2015) who found that attitude predicted the performance of a behavior. Perceived behavioral control appears to be the most important construct of the TPB in predicting the performance of a behavior but other constructs of the theory are also critical to the performance of specific behaviors in some settings.

Justification for the selection of the Theory of Planned Behavior

The TPB was chosen for the study, in place of other theories, because using the constructs of the theory, it can best elicit the perceptions of PMPs in Nigeria towards the

NNTTG. The TPB has been successfully applied in understanding the behaviors of MPs towards treatment guidelines (Addisu et al., 2014; Gagnon et al, 2015; Nelson et al., 2014; Rashidian & Russell, 2011; Rashidian & Russell, 2012). Other theories used in studying the behaviors of MPs included the attitude, social norm, and self-efficacy (ASE) model (Schellart et al., 2013), the persuasive communication intervention (PCI), and the graded task intervention (GTI) theories (Milos et al., 2013). The TPB would enable an in-depth exploration of the research questions. By sharing their various experiences with the use of the NNTTG, insight would be gained into the behavioral intentions, attitudes, subjective norms, and perceived behavioral control of PMPs as it concerns the use of the guideline.

Background of TB

TB has been a cause of serious ailment and mortality to mankind for more than a century now and has killed more people than any other micro-organism (Comas et al., 2013; Cudahy & Shenoi, 2016; Daniel, 2006; Lienhardt et al., 2012; Sharma & Mohan, 2013). The disease is on the decline in many developed parts of the world but has remained a major public health problem in many developing countries, mainly due to HIV/AIDS, socio-economic considerations, and the rise of drug resistance to TB (Adeiza et al., 2014; Chiang et al., 2013; Cudahy & Shenoi, 2016; Glaziou et al., 2013; Lienhardt et al., 2012; Sharma & Mohan, 2013). Glaziou, Falzon, Floyd, and Raviglione (2013) noted that developing countries with good TB control programs have achieved reduction in TB prevalence comparable to those of many developed countries. Chiang, Weezenbeek, Mori, and Enarson (2013), and Cudahy and Shenoi (2016) attributed the

progress made in the control of TB in recent years to political will and financial support by government and development partners, public-private partnerships, new diagnostic tools, and efficacious drugs for the treatment of TB. The growing incidence of MDR-TB is however threatening to undermine all the progress that has been made in the control of TB (Chiang et al., 2013; Cudahy & Shenoi, 2016; Glaziou et al., 2013; Sharma & Mohan, 2013; Zhang & Yew, 2015).

Transmission of TB

The goal of most NTPs is to decrease the chain of transmission of TB from infected individuals to non-infected persons (Narasimhan et al., 2013). TB affects the lungs in about 80% of the cases but virtually any organ of the body can be affected (Loddenkemper, Lipman, & Zumla, 2016; Narasimhan et al., 2013; Sharma & Mohan, 2013; Zumla et al., 2013). When untreated or poorly treated TB cases cough, sneeze, sing, or talk, they release the infectious organisms into the air and persons can become infected when they inhale these organisms (Glaziou et al., 2013; Narasimhan et al., 2013; Sharma & Mohan, 2013; Yates et al., 2015; Zumla et al., 2013). In most individuals, the body's immune system can contain the organism and cause them to become encapsulated within the lung tissue (Narasimhan et al., 2013). In about 10 - 15% of infected persons, the organism will break out from the tissues and cause disease sometime within their lifetime, the risk being higher in persons in whose immune system is compromized (Narasimhan et al., 2013; Zumla et al., 2013).

Risk factors for developing TB

There are several risk factors for being infected with TB. Index case-related factors are primarily associated with the density of infectious organisms being harbored by the affected individual and the closeness of the patients to household, work, or social contacts (Narasimhan et al., 2013). Individual factors related to TB transmission deals with conditions like HIV, young age, malnutrition, and diabetes that lower a person's immune system as well as health care workers that are more exposed to infectious TB cases than the general population (Dhanaraj et al., 2015; Narasimhan et al., 2013; Sharma & Mohan, 2013). Senkoro et al. (2016) in a prevalence study report of the Tanzanian prevalence study did not find any association between the TB prevalence and HIV and diabetes mellitus. Other factors beyond the individual also predispose people to becoming infected with TB.

Socioeconomic and behavioral factors such as poverty, overcrowding, indoor pollution, smoking, and alcohol are critical to being infected with TB (Dhanaraj et al., 2015; Narasimhan et al., 2013; Sharma & Mohan, 2013). Narasimhan, Wood, MacIntyre, and Mathai (2013) reported that demographic factors play role in people becoming infected with TB. They noted particularly that some indigenous persons in Canada and Australia are known to have certain risk factors that contribute to their having a high prevalence of TB. Narasimhan et al. (2013) found that weak health systems equally increase the risk factors for contracting TB, mainly due to delay in diagnosis of TB cases and poor treatment of diagnosed cases. Chiang et al. (2013) advocates targeting the risk factors for developing TB as an effective measure for reducing the transmission of TB in

the general population. Improving the functional capacity of NTPs and addressing risk factors for the development of TB would reduce the transmission of TB in the general population.

Clinical presentation of TB

The common symptoms of TB are cough, fever, weight loss, loss of appetite, weakness, tiredness, and night sweats (Cheng, Wang, Zhang, & Xia, 2015; Loddenkemper et al., 2016; Zumla et al., 2013). The clinical presentation of extra-pulmonary TB will depend on the organ of affectation (Zumla et al., 2013). For the diagnosis of TB, most NTPs recommend cough of two weeks of more duration before investigating the patient for TB (Cheng et al, 2015; Cudahy & Shenoi, 2016). Cheng et al. (2015) and Cudahy and Shenoi (2016) pointed out too much emphasis should not be placed on using only cough for screening people for TB because, in as much as 50% of persons diagnosed with TB, there was no history of cough. Hongguang et al. (2015) however reported that symptomatic screening is necessary because of its high diagnostic yield in people with diabetes mellitus. In the light of these findings, Cheng et al. (2015) reported that practitioners have called for a review of the TB guidelines that stress on using cough as a major diagnostic symptom of TB.

Diagnosis of TB

A first step in the management of TB patients is the proper diagnosis of the disease. Early and accurate diagnosis is critical to tuberculosis care and control and was clearly encapsulated in the end TB strategy (Gebreegziabher, Yimer, & Bjune, 2016a; Mijiti et al., 2016; Qin et al., 2015; Weyer et al., 2013; WHO, 2015). Guidelines for the

diagnosis of TB are usually articulated in national TB guidelines of countries and practitioners are expected to adhere to such guidelines (Gebreegziabher et al., 2016a; Zumla et al., 2013). The need for such guidelines arose out of the realization that practitioners often order non-specific tests for TB instead of the tests recommended in the TB guidelines (Iqal & Rahman, 2013; Murrison et al., 2016; Wells et al., 2015). Hopewell et al. (2014) reported that without such guidelines, patients could be diagnosed with a disease that they do not have and run the risk of unnecessary treatment. It is the responsibility of all involved in TB control to ensure that TB cases are diagnosed early and that diagnosed TB patients are placed on appropriate TB treatment.

Diagnosing TB early enough is important for the overall TB program. Hopewell et al. (2014) noted that not instituting the right diagnosis might result in delayed diagnosis for patients with TB. Sreeramareddy et al. (2014) in India found a total median delay of 55 days before TB diagnosis, with most of the delays occurring in the private sector. Medical providers in a study in Ethiopia, however, argued that following the national TB guideline on diagnosis of TB would actually delay the diagnosis of the disease (Mala et al., 2014). de Cuevas et al. (2016) pointed out that the present diagnostic recommendations for TB diagnosis in some settings require that patients pay numerous visits to health facilities before a diagnosis is made, a situation that might lead to delay TB diagnosis. It is the responsibility of NTPs to clearly outline the methods for TB diagnosis in national TB guidelines and remove barriers that delay early TB diagnosis.

The major diagnostic methods for TB include sputum microscopy for the detection of the TB bacilli, chest X-ray, rapid molecular tests, nucleic acid amplification

tests (NAATs), sputum culture, breath analysis of volatile organic compounds, and histopathological examinations (Chiang et al., 2013; Schito et al., 2015; Zumla et al., 2013). To date culture has remained the confirmatory test for tuberculosis and is called the gold standard in TB diagnosis (Horsburgh, Barry III, & Lange, 2015; Schito et al., 2015). Newer diagnostic techniques like the Xpert MTB/RIF assay that reduce the diagnostic period are increasingly being used as the primary diagnostic method for TB (Chiang et al., 2013; Cudahy & Shenoi, 2016; Horsburgh et al., 2015; McCarthy et al., 2016; Schito et al. 2015). NTPs should ensure that newer affordable TB diagnostic methods are succinctly captured in national TB guidelines.

Sputum microscopy for TB Diagnosis

For more than a century, the primary means of TB diagnosis remained microscopic examination of the sputum for the TB bacilli. In their systematic review of the quality of tuberculosis care in India, Satyanarayana et al. (2015) observed that sputum microscopy is cheap and does not require highly trained personnel or sophisticated infrastructure for its performance. The current recommendation is for two sputum specimens to be collected for TB diagnosis using sputum microscopy (Jabbar, Ali, & Sohali, 2015). The main limitation of sputum microscopy is that it is less sensitive than other newer diagnostic methods in identifying the TB bacilli, especially in HIV-positive persons (McNerney, Cunningham, Hepple, Zumla, 2015; Zumla et al., 2013). It is expected that all practitioners involved in TB control should have the capacity to perform sputum microscopy when newer TB diagnostic facilities are not available.

Many practitioners still find it difficult to utilize sputum microscopy in TB diagnosis. Satyanarayana et al. (2015) reported that, even with a cheap and simple test like sputum microscopy, a low proportion of patients were undertaking sputum examinations for their diagnosis. Jabbar, Ali, and Sohali (2015) found that only 40% of practitioners in their study was complying with this recommendation. Davis et al. (2013) reported that the non-compliance to this recommendation may have to do with the finding that, with good quality laboratory assurance, one single sputum specimen examination has the same sensitivity and specificity as the two-sputum specimen requirement. NTPs need to regularly update their treatment guidelines to align with new evidence from research.

Xpert MTB/Rif

The newer rapid molecular tests like the Xpert MTB/Rif assay are showing promise in the diagnosis of TB. WHO (2011) recommends that countries use the Xpert MTB/RIF assay as the primary means for the diagnosis of TB in patients suspected of having TB and in all HIV positive patients. Chiang et al. (2013) and Weyer et al. (2013) noted that the technique, though costlier than the routine sputum microscopy, is more sensitive than sputum microscopy. Other advantages of the test over sputum microscopy are the shorter diagnostic period of only two hours, its ability to detect rifampicin-resistant TB, and its high specificity and sensitivity with regards to the diagnosis of TB in HIV positive patients (Chiang et al., 2013; Steingart et al., 2014; Weyer et al., 2015; Zumla et al., 2013). With respect to the cost of Xpert MTB/Rif assay, Pinto et al. (2016)

found that the test is more cost-effective than sputum microscopy in its ability to eliminate further TB diagnostic tests when the initial test is negative.

Despite the many advantages of the Xpert MTB/Rif over sputum microscopy, many developing countries are still not able to tune in to this modern diagnostic technique (Chiang et al., 2013; McCarthy et al., 2015; McNerney et al., 2015; Qin et al., 2015). Qin et al. (2015) reported that among the 22 high TB burden countries, South Africa, China, India, and Brazil alone procured 80% of the Xpert MTB/Rif machine in use up to 2014. McCarthy et al. (2015) reported a slow uptake of this new technique, especially in the diagnosis of TB in HIV positive patients, by medical practitioners. Another concern with the new diagnostic method is that its increasing use in Sub-Saharan Africa has not led to a reduction in TB-related mortality in the region (Theron et al., 2015). While promoting these newer diagnostic techniques, it is important that NTPs develop guidelines that recommend diagnostic methods that are appropriate to their settings and that will ensure better outcomes for TB patients.

Chest X-ray

Chest X-ray is an important diagnostic method that is commonly employed by practitioners. Chest X-ray is popular with practitioners because it is quick and has a short turn around time (Chiang et al., 2013; Pinto et al., 2013; Skoura, Zumla, & Bomanji, 2015). Most national TB guidelines recommend the use of chest X-ray if TB could not be detected by sputum microscopy (Pinto et al., 2013; Satyanarayana et al., 2015). In many settings, especially in developed countries, chest radiographic examination is the initial test used for persons with cough since it is a useful tool to identify persons who require

further evaluation to determine the cause of radiographic abnormalities, including tuberculosis (Paquette et al., 2014; Pinto et al., 2013). In these settings, Schito et al. (2015) noted that Chest X-ray may serve as the primary means for the diagnosis of TB. A limitation of Chest X-ray is its poor specificity and inter-reader variability (Pinto et al., 2013). A search for better imaging techniques holds promise for better TB diagnosis.

Newer imaging techniques like computerized tomography are enhancing the diagnosis of both pulmonary and extrapulmonary TB. Schito et al. (2015) and Skoura et al. (2015) noted that the newer imaging techniques have quicker and better TB diagnostic capability. Hopewell et al. (2014) cautioned that Chest X-ray should be seen as an ancillary means to TB diagnosis and should not be used alone as the sole diagnostic method as such can lead to overdiagnosis or missed diagnosis of TB. National TB guidelines should specifically spell out the role of Chest X-ray in TB diagnosis.

Drug – resistant TB

A major challenge facing the global TB program is the emergence of drug-resistance TB (DR-TB). This development, which is mainly because of inadequate or wrong treatment by health workers has the potential of undermining previous efforts to eliminate TB worldwide (Abubakar et al., 2013; Glaziou et al., 2013; Sharma & Mohan, 2013, Zhang & Yew, 2015). When this occurs, mutant strains of the organism which are resistant to the conventional TB drugs develops (Glaziou et al., 2013). It is estimated that about 3.6% of new TB cases and 20.2% of previously treated TB cases have DR-TB (Glaziou et al., 2013; WHO, 2015). In 2015, 450,000 people were estimated to have developed multi-drug-resistant TB (WHO, 2016).

There are several varieties of DR-TB but the most serious ones are MDR-TB and extensively drug resistant TB (XDR-TB). MDR-TB is said to be present when the TB bacilli is resistant to at least isoniazid and rifampicin, while extensively drug-resistant (XDR)-TB occurs when the organisms are resistant to isoniazid and rifampicin and at least one fluoroquinolone, and one injectable second-line anti-TB drug (Abubakar et al., 2013; D'Ambrosio et al., 2015; Horsburgh et al., 2015; Zhang & Yew, 2015). D'Ambrosio et al. (2015) reports that a major challenge with DR-TB treatment is poor treatment outcomes among patients with the condition, even in the best centers. To prevent the development of this serious condition, NTPs should identify strategies that would promote the adherence of practitioners to TB treatment guidelines.

Treatment of TB

The goal of TB treatment is to ensure that appropriate treatment that will cure the patient is instituted. Adherence to TB guidelines by MPs will cure the patients and prevent the transmission of TB to other persons (Islam et al., 2014; Nahid et al., 2016; Shin & Kwon, 2015; Zumla et al., 2013). Most NTPs employ the standard the 6-month regimen of Rifampicin, Isoniazid, Ethambutol, and Pyrazinamide in the first two months of treatment, followed by Rifampicin and Isoniazid in the last four months of treatment (D'Ambrosio et al., 2015; Horsburgh et al., 2015; McNerney et al., 2015; Nahid et al., 2016; Shin & Kwon, 2015; Zumla et al., 2013). Horsburgh et al. (2015) found that the regimen, if rigidly followed, has been found to cure most TB patients and prevent relapse of the disease in them. Iqbal and Rahman (2013) found that most practitioners in their study in Pakistan were using the WHO and national TB guidelines in treating their TB

patients. Not all practitioners believe that the 6-month regimen is adequate to cure patients of TB, as pointed out by Shin and Kwon (2015), who reported that practitioners in their study recommended the extension of the duration of treatment, particularly in patients with cavitations in their lungs.

The problem with TB treatment appears to be adherence to treatment protocols with regards to the treatment regimen and the duration of treatment. Chiang et al. (2013) and Wells et al. (2015) have noted that PMPs often do not adhere to standards in treatment when managing TB patients. Satyanarayana et al. (2015) reported that less than 50% of practitioners prescribed the correct number of drugs and the correct duration of treatment for patients. Islam et al. (2014) in Bangladesh reported that only a quarter of PMPs knew the correct duration of TB treatment. Satyanarayana et al. (2015) in their study reported that despite practitioners' knowledge about direct observation of treatment (DOT), less than half of them were using DOT in the treatment of patients. Many of the findings with regards to adherence to treatment protocols have been attributed to the variation in the TB treatment guidelines of many countries on the duration of treatment and pattern of drug administration (Horsburgh et al., 2015). Educating practitioners on standard treatment protocols is one of the ways to ensure adherence to the treatment guidelines.

Tuberculosis Burden

The burden of TB is on the decrease globally but has remained high in many developing countries (Glaziou et al., 2013; Glaziou, Sismanidis, Floyd, & Raviglione,

2015; Hopewell et al., 2014; Lienhardt et al., 2012; Sharma & Mohan, 2013; WHO, 2016). Together with HIV, TB is ranked among the highest cause of death by an infectious disease (Glaziou et al., 2013). WHO (2016) reported that TB was one of the top 10 causes of death in the world in 2015. The organization equally estimated that about 10.4 million people developed TB in 2015, and that about 1.4 million people died from the disease in the same year. Raviglione and Sulis (2016) reported that an estimated 67% of the new TB cases in 2014 were in Africa and South-East Asia. According to WHO (2016), 4.3 million of the estimated new cases of TB are undetected. The bulk of these undetected cases are thought to be TB cases managed by PPs but not reported to NTPs (Nepal et al., 2012; RamBihariLal Shrivastava, Shrivastava, & Ramasamy, 2013; Ukwaja, Alobu, Nweke, & Onyenwe, 2013). Targeting PMPs in TB control efforts should be a veritable strategy in addressing the burden of TB in the high TB burden countries.

Nigeria, like many developing countries, has a high burden of TB and is one of the 30 high burden countries in the world (WHO, 2016). The number of existing TB cases in Nigeria increased from 290,000 in 1990 to 586,000 in 2015 (WHO, 2013; WHO, 2016). Equally, the mortality from TB in the country increased from 34,000 in 1990 to 57,000 in 2016 (WHO, 2013; WHO, 2016). WHO (2016) reported that Nigeria is one of the six countries that contributed 60% of the global TB burden in 2015 and was among the three countries in the world that were responsible for the missing gap in TB case detection in the world in the same year. Despite this high and increasing number of TB cases in Nigeria, it has been estimated that only 15% of existing TB cases are being

detected by the country's NTP (WHO, 2016). Danie et al. (2013) reported that the high number of TB cases and the gap in case detection was a source of concern for public health authorities in Nigeria and recommended the involvement of the private sector as a strategy to increase the number of TB cases detected in the country.

The End-TB Strategy

Building on the successes of previous strategies to control the scourge of TB, a new strategy was developed to herald the elimination of TB as a global public health problem. This strategy, the 'END-TB Strategy', was endorsed by the World Health Assembly in 2014 and has the ambitious vision of a world free of TB (D'Ambrosio et al., 2015; Lönnroth et al., 2016; Raviglione, 2013; Raviglione & Sulis, 2016; WHO, 2015). The strategy envisions the decrease by about 90% in the deaths associated with TB and the reduction of TB incidence by 80% by the year 2030 as well as the elimination of huge costs borne by TB patients in treating the disease (Lönnroth et al., 2016; Raviglione & Sulis, 2016; WHO, 2015). Equally embodied in the strategy is the improvement in the early diagnosis of TB, ensuring strict adherence to treatment regimens, surveillance for drug-resistant TB, investigation of contacts of TB patients, and TB infection control (WHO, 2015).

The end-TB strategy is anchored on four principles and three pillars (Lönnroth et al., 2016; WHO, 2015). These pillars and principles seek to incorporate government, civil society organizations, communities, legal entities, adaptation of effective strategies, patients, sound policies, and research in the fight to end TB globally (Lönnroth et al., 2016; WHO, 2015). Aligned to the end-TB strategy is the United Nation's Sustainable

Development Goals (SDG) that has the target of reducing the transmission of TB to 20 new cases of TB per 100,000 population and the TB deaths by 90% by the year 2030 (WHO, 2015). The ultimate goal of the SDG is to stop deaths from TB and reduce the huge costs borne by individuals for TB diagnosis and treatment (WHO, 2015).

Public-Private-Mix in TB Control

Public health may depend on non-governmental or private resources to provide appropriate care. In many developing countries, the private sector provides health care to majority of the population (Bharaswadkar et al., 2014 Chiang et al., 2013; Daniel et al., 2013; Lei et al., 2015; Islam et al., 2014; Khan, Salve, & Porter, 2015; Kanungo et al., 2015; Naqvi, et al., 2012; Pethani et al., 2015; WHO, 2010). Private sector involvement in health care is gaining prominence because it is becoming increasing difficult for governments, especially in developing countries, to provide quality health care for its citizens (Duc, Sabin, Thien, & Feeley III, 2012; Innes et al., 2012; Khan et al., 2015; WHO, 2010). Patients also consult the private sector because they are easily accessible to the patients compared to public health facilities (Duc et al., 2012; May, Roth, & Panda, 2014; Ullah et al., 2012). The important role the private sector is playing in health is informing the collaboration of many public health authorities with the private sector in many health problems like TB.

The private sector is broad and consists of nongovernmental organizations (NGOs) and faith-based organizations, community organizations, traditional healers, corporate health services, private hospitals, private chest physicians and general practitioners, clinical officers, pharmacies, and other unqualified medical practitioners

(Hopewell et al., 2014; Wells et al., 2015; WHO, 2010). It is estimated that a third of diagnosed TB patients are being managed by PMPs and that close to one-fourth of these patients had first consulted the private sector before the diagnosis was made (Nepal et al., 2012; RamBihariLal et al., 2013; Ukwaja et al., 2013). Given the high number of TB patients managed in the private sector, involving them in TB control should be the goal of NTPs.

Many NTPs are not involving the private sector in the TB program despite the many advantages of doing so. Naqvi et al. (2012) reported that, in many developing countries, TB control measures have concentrated in the public sector while neglecting the larger private sector. This view was corroborated by Damore, Rajesh and Nair (2012) who found that the involvement of the private sector was very low in India. In Nepal, Nepal, Shrestha, Baral, Bhattarai, and Aryal (2012) reported that no form of formal collaboration existed between the private sector and the NTP in their study area. Arisanti (2012) and Chiang et al. (2013) posit that collaboration with the private sector is essential in the fight against the scourge of TB. Involvement of the private sector in TB control would help NTPs meet their set targets for TB detection and treatment.

The realization that meaningful progress cannot be made in the achievement of set targets by NTPs without involving the private sector is one of the driving forces towards the collaboration of the private sector in TB control (Amo-Adjei, 2016; Chiang et al., 2013; Khan et al., 2012; WHO, 2010). The Public Private-Mix (PPM) model is a strategy developed by WHO to engage all health care providers in the NTPs (Damore et al., 2012; WHO, 2010). The PPM strategy is the fourth component of the WHO's Stop TB Strategy

and has been adopted and being implemented by many NTPs in developing countries (Daniel et al., 2013; Naqvi, et al., 2012; WHO, 2010). Lei et al. (2015) reported that good TB treatment outcomes are obtained when private practitioners are sufficiently supported in implementing TB control activities. Effective implementation of the PPM strategy remains one of the keys to the attainment of the goals on NTPs in many countries.

Reaching an agreement on the specific type of private providers to be targeted in the PPM program has been contentious among health care providers in the private sector. Salve, Sheikh, and Porter (2016) reported that some groups of PPs were not comfortable with being classified with all health care providers in the private sector, irrespective of their system of practice, under the umbrella 'private providers'. The authors noted that this designation entails that uniform incentives are provided for the providers, a practice which discourages some types of PPs from participating in the PPM scheme. Another complaint of PPs is that they were not sufficiently involved in the implementation of the PPM strategy and that the whole scheme remained under the sole control of the public sector (Kastner et al., 2014; Salve et al., 2016). The PPM strategy has also been criticized for insisting on using the principles of orthodox medicine in the management of TB patients and not accommodating other systems of medical practice (Salve et al., 2016). The authors mentioned that insisting on only rigid regimens discourage PMPs from collaborating with the NTPs in TB control. There is a need to identify PPM schemes that would accommodate the expectations and interests of diverse health care practitioners.

A lot of successes have been recorded in the implementation of the PPM strategy in many countries. Khan et al. (2012) reported that implementing the PPM strategy in a

private health facility in India resulted in a 50% increase in TB case detection in one year. In Pakistan, the different PPM models contributed between 19% and 53% increase in the number of TB cases detected (Chughtai, Qadeer, Khan, Hadi, & Memon, 2013). Engaging the private sector in TB control in a setting in India led to an increase of more than 100% in the number of new TB patients that were detected (Khan et al., 2015). Nigeria has been implementing the strategy since 2007 and the collaboration with the private sector resulted in an increase in TB case detection in the range of 10% to 23% in 2012 (Daniel et al., 2013). The private sector can contribute significantly to TB control if they are effectively involved and empowered with standard guidelines.

Treatment Guidelines in Disease Management

Standard treatment guidelines are becoming popular in health care. Guidelines for disease management are developed to enable practitioners in different fields of health care manage patients in line with acceptable standards and reduce the wide variation between clinical practice and evidence from research (Hollon et al., 2014; Mala et al., 2014; Solà et al., 2014; Sosa-Garcia et al., 2016). They assist health care workers in making correct decisions with respect to diagnosis, management, and treatment of particular health conditions (Barfoed et al., 2015; Hendaus, Alhammadi, Razig, & Alnaimi, 2014; Milos, Westerlund, Midlov, & Strandberg, 2014; Yuwen et al., 2012). Treatment guidelines help to optimize costs as it reduces the tendencies for health professionals to order unnecessary investigations or prescribe inappropriate treatment to patients (Yuwen et al., 2012). These many advantages of treatment guidelines are the driving forces towards their being advocated for use by MPs.

Not all practitioners assent to the usefulness of treatment guidelines. A major criticism of treatment guidelines is that they are often developed without the involvement of the end-users (Kastner et al., 2014; Kielmann, Datyeb, Pradhand, & Rangan, 2014; Salve et al., 2016; Yuwen et al., 2012). Another concern about treatment guidelines is the trustworthiness of such guidelines as some of them are perceived as not being backed up by adequate research evidence (Mala et al., 2014; Solà et al., 2014). Practitioners often reject guidelines because they feel that the developers of the guidelines have no practical experience in patient management (Solà et al., 2014). Lack of time by practitioners to read the guidelines has also been reported as hindering the use of treatment guidelines by practitioners (Milos et al., 2014; Solà et al., 2014). A deeper analysis of how MPs generally perceive treatment guidelines is necessary to ascertain strategies of increasing their use of the guidelines.

TB treatment guidelines in TB management

One area in which treatment guidelines are commonly employed is in TB control. WHO has developed TB guidelines to ensure that the highest standards are followed in the management of TB patients (Mala et al., 2014). Many countries have since adapted the guidelines to suit their settings (Iqbal & Rahman, 2013). TB treatment guidelines assist in creating awareness about TB and promoting early TB case detection (Tafuma et al., 2014; Wang et al., 2016). They serve as evidence-based materials and rationale for the various diagnostic and treatment protocols in TB control (Wang et al., 2014). An added benefit of the guidelines is in the reduction of unnecessary medical tests ordered for patients and the exposure of TB patients to erroneous treatment (Bharaswadkar et al.,

2014; Nepal et al., 2012). Despite the many benefits of TB guidelines, Berti, Galli, Venturini, de Martini, and Chiappini (2014) noted that discrepancies in some of the guidelines limit their use by MPs. The creation of awareness concerning the treatment guidelines by NTPs is one of the responsibilities of NTPs.

Many PMPs are not aware of the existence of TB treatment guidelines. Knowledge among the PPs about the national TB guidelines has been identified as the cornerstone of effective control of TB as PMPs are the first point of call for treatment by many patients (Jabbar, Ali, & Sohail, 2015; Iqbal & Rahman, 2013; Islam et al., 2014; May et al., 2014; Murrison et al., 2016; Pethani et al., 2013; RamBihariLal et al., 2013; Wells et al., 2015). Yimer, Holm-Hansen, and Bjune (2012) in Ethiopia reported that over 30% of PMPs were not aware of the provisions in the TB treatment guidelines of the country. Similarly, Naseer, Khawaja, Pethani, and Aleem (2013) noted that MPs working in the private sector had low knowledge of TB diagnostic guidelines compared to those in the public sector. Creating awareness about the benefits of TB guidelines would be a step towards increasing the use of the guidelines by practitioners.

Use of TB treatment guidelines has been found to result in good patient outcomes and has contributed to a reduction in TB morbidity and mortality and in reducing the incidence of multi-drug-resistant TB (Adejumo et al., 2016; Anowar et al., 2013; Naidoo et al., 2013; Wen et al., 2014). Adejumo et al. (2016) reported that TB treatment success was higher in facilities where medical practitioners adhered fully to the TB treatment guidelines in managing their patients compared to facilities with none or partial adherence to the guidelines. Similarly, Pethani et al. (2013) reported a treatment success

rate of 86.3% in a project in an urban area of Pakistan where PMPs used the TB guidelines in managing TB patients. Méchaï et al. (2015) reported that despite the benefits of the TB guidelines, practitioners were often not managing their patients in line with the guidelines. The commonly available TB treatment guidelines are national TB treatment guidelines and the International Standards for TB Care (ISTC).

The International Standards for TB Care (ISTC)

The ISTC, in particular, was developed to offer a global standard for TB diagnosis and treatment (Hopewell et al., 2014). It consists of 21 standards that describe a wide range of care that MPs are expected to adhere to in managing patients suspected of having tuberculosis or already diagnosed with the disease (Hopewell et al., 2014; Zagala, Benedicto, Tabujara, Remalante, & Laurezo, 2016). Despite the existence of the ISTC for close to a decade, many practitioners are still unaware of the document (Wells et al., 2015). Mahendradhata et al. (2015) in Indonesia found that a low proportion of PMPs were aware of the ISTC. The onus lies on NTPs to promote the use of ISTC by practitioners in managing TB patients.

Many benefits will accrue to TB patients if MPs adhere to the ISTC in managing TB patients. Murrison et al. (2014) found that a substantial number of chest physicians were adhering to the standards in the ISTC in managing TB patients. Jabbar et al (2015) and Satyanarayana et al. (2015) in their studies however found that a lower proportion of MPs were managing TB patients in line with the ISTC. The situation was worse in a study in China where less than 15% of PPs were adhering to the ISTC in managing TB patients (Achanta et al., 2013). When compared to public MPs, Satyanarayana et al.

(2015) found that PMPs were less likely to manage TB patients in line with the ISTC than public MPs. These findings differed from studies in Philippines and India where (Mishra and Mulani (2013) and Zagala, Benedicto, Tabujara, Remalante, and Laurezo (2016) respectively found that doctors in the private sector adhered to most of the standards in the ISTC in managing TB patients than those in the public sector. The low adherence to treatment guidelines is sparking the interest to carry out a study that will seek to explain this undesirable behavior concerning TB treatment guidelines.

Strategies to Improve the Adherence of TB Treatment Guidelines

Several strategies have been marshaled out by NTPs to increase the adherence to TB treatment guidelines by PMPs. These strategies range from capacity building of PMPs to provision of incentives and creation of feedback mechanisms (Cattamanchi et al., 2015; Gebreegziabher, Yimer, & Bjune, 2016b; Hoffmann et al., 2016; Iqbal & Rahman, 2013; Méchaï et al., 2015; Mishra & Mulani, 2013; Vaucher et al., 2016). Iqbal and Rahman (2013) recommend conducting seminars on TB for practitioners to improve their management of TB patients. Other strategies included facilitated workshops and on-going training, leadership and peer support activities, task-shifting, skill-building workshops and refresher training, and performance feedback and reviews (Cattamanchi et al., 2015; Gebreegziabher et al., 2016b; Hoffmann et al., 2016; Iqbal & Rahman, 2013; Méchaï et al., 2015; Mishra & Mulani, 2013; Vaucher et al., 2016).

Involving the PMPs in the design and implementation of the guidelines can enhance their adherence to the guidelines. Kastner et al. (2014) noted that this is a strategy that has been found to improve the adherence of the guidelines by PMPs. The

use of technologies to enhance accessibility and implementation of guidelines has also been advocated as a strategy that would improve the used of the guideline by practitioners (Lee et al.,2015; Vaucher et al. 2016). Lee et al. (2015) recommend the provision of incentives to practitioners as a measure to improve adherence (Lee et al., 2015). The perceptions of PMPs towards TB guidelines that were elicited will help to inform studies on strategies to increase the utilization of the guidelines by them.

Adherence by Private Medical Practitioners to TB Treatment Guidelines

PMPs have often been accused of nonadherence to TB treatment guidelines. In some settings, less than 25% of TB patients were managed in line with national TB guidelines (Auld et al., 2016; McCarthy et al., 2016; Mishra & Mulani, 2013). Chiang et al. (2013), Satyanarayana et al. (2015), and Wells, Uplekar, and Pai, (2015) reported that nonadherence to TB treatment was commoner in the private sector than in the public sector. Adejumo et al. (2016) and Mishra and Mulani (2013), while noting the poor adherence to national TB guidelines by PMPs, did not find any difference between public medical practitioners and PPs in their adherence to the guidelines. A further elucidation of reasons behind the nonadherence to TB treatment guidelines by PMPs is needed.

Many factors are thought to be responsible for the nonadherence to treatment guidelines by PMPs. Lack of training, inadequate exposure of PMPs to TB treatment guidelines, poorly coordinated health programs, excessive recording and reporting demands by the TB program, issues of patient confidentiality, discrimination, and stigma have been touted as factors responsible for poor adherence by MPs to TB guidelines (Cattamanchi et al., 2015; Hoffman et al., 2016; Iqbal & Rahman, 2013; Naseer,

Khawaja, Pethani, & Aleem, 2013; Philip et al., 2016; Solà et al., 2014; Thomas et al., 2016; Wen et al., 2014). Mala et al. (2014) pointed out that limited diagnostic options and vague recommendations of the TB guidelines were some factors responsible for the nonadherence to treatment guidelines by practitioners. Wen et al. (2014) found that specialist physicians were not adhering to the guidelines because they felt that the recommendations of the guidelines were not relevant in their specialist practice. Atif et al. (2016) reported that their study participants do not adhere to the guidelines because they perceived the guidelines as not being comprehensive enough to address some issues in patient management like side-effects of drugs and some complications of the disease.

Another factor found to be responsible for the nonadherence of practitioners to the TB guidelines was inadequate exposure of the practitioners to the national TB (Achanta, et al., 2013; Islam et al., 2014; Yimer, Holm-Hansen, & Bjune, 2012). This did not seem to be the case in the study by Adejumo et al. (2016) who found that PPs were still not adhering poorly to the TB treatment guidelines despite being exposed to the guidelines. Philip et al. (2016) were of the view that these findings point to the ineffective linkage of PPs to the TB program and the poor coordination of the collaboration with the private sector. Further studies are needed to sufficiently explore the underlying factors behind the low adherence to national TB guidelines by MPs.

Consequences of nonadherence to TB treatment guidelines

Nonadherence to TB treatment guidelines has serious consequences for the TB patient as well as the overall TB control efforts. Health workers are not often aware of these consequences as reported by researchers in a study in Ethiopia (Gebreegziabher et

al., 2016b). Failure to adhere to standard TB guidelines in the diagnosis of TB patients could lead to missed TB diagnosis which, would further result in increased mortality due to TB (McCarthy et al., 2016). Naidoo, Naidoo, Gathiram, and Lalloo (2013) reported that nonadherence to TB guidelines in managing TB patients could result in as high as 35 – 52% in wrong diagnosis and in diagnostic delays. This view was controverted by researchers in a study in Botswana where the participants felt that strict adherence to TB guidelines would result in delay in making TB diagnosis as much time is wasted while trying to meet all the criteria required for the diagnosis of the disease (Tafuma et al., 2014). In their case study research, Mishra, Ghorpade, and Mulani (2014) illustrated how nonadherence to the Indian TB treatment guidelines culminated in the development of extensively drug-resistant TB (XDR-TB) in a young unmarried lady.

Nonadherence to TB treatment guidelines could lead to unfavorable outcomes for patients. Gebreegziabher et al. (2016b) reported that nonadherence to treatment guidelines is one of the factors responsible for poor performance of many NTPs. The rise in the incidence of MDR-TB has been blamed on nonadherence to TB guidelines (Mahendradhata et al., 2015; Mishra et al., 2014; Murrison et al., 2016) The impact of nonadherence to TB treatment guidelines merits further exploration by researchers on factors responsible for this.

Perceptions of Medical Practitioners to Treatment Guidelines

Many countries churn out disease treatment guidelines on a regular basis, but not enough attention is given to how the users of the guidelines perceive the documents. Solà et al. (2014) noted that perceptions of MPs towards treatment guidelines are influenced

by their knowledge of the guidelines and how they perceive them to be useful. They elaborated that these are in turn dependent on such factors as confidence, usability, accessibility, dissemination, and formats of the guidelines (Solà et al., 2014). Milos, Westerlund, Midlov, and Strandberg (2014) and Solà et al. (2014) reported that practitioners found treatment guidelines to be beneficial to them in their practice. These studies demonstrate that practitioners perceive the TB treatment guidelines as being useful.

A perception of the usefulness of the usefulness of the guidelines does not often result in the use of the guideline in real-life practice. A paradoxical finding on the use of treatment guidelines by MPs is that, even if they are aware of the provisions in the guidelines, this knowledge is not translating into practice in accordance with the guidelines (Méchaï et al., 2015; Milos et al., 2014; Philip et al, 2015; Solà et al., 2014; Vaucher et al., 2016). This has been attributed to the clamor for independence by practitioners in the management of their patients, the lack of flexibility with recommended guidelines, and the difficulty in applying the guidelines in real life practice (Barfoed et al., 2015; Milos et al., 2014; Solà et al., 2014). The underlying factors behind the discrepancies between knowledge and practice with regards to TB treatment guidelines need further in-depth study.

Perceptions of Private Medical Practitioners to TB Treatment Guidelines

The findings of few retrieved studies on the perceptions of PMPs towards TB treatment guidelines offer conflicting results. Damore et al. (2012) and Kastner et al. (2014) reported that PMPs perceived the treatment guidelines to be useful in managing

TB patients. In other studies, PMPs perceived the TB treatment guidelines as not being effective and so resorted to using their own regimens in managing TB patients (Kielmann et al., 2014; Philip et al., 2015). Kielmann, Datyeb, Pradhand, and Rangan (2014) noted that PPs in their study perceive the TB guidelines to be inferior hence, their disregard for them. Mahendradhata et al. (2015), Méchaï et al. (2015), and Philip et al. (2015) reported that, though PMPs in their studies were knowledgeable about the TB guidelines, their actual practice did not reflect this. Philip et al. (2015, p.10) referred to this phenomenon as the "perception-practice" gap. In this situation, the practitioners' practice is in direct contrast to their knowledge about the treatment guidelines. An in-depth elicitation of these perceptions is vital to offering explanations to the gap between knowledge and practice of the PMPs with respect to the TB treatment guidelines.

Qualitative Studies on Perceptions of PMPs towards TB Treatment Guidelines

In this study, qualitative research methods employing the narrative approach were used to study the perceptions of PMPs towards the NNTTG. The narrative approach allows an in-depth study of how persons perceive, understand, and offer explanations of the experiences they have towards an object of interest (Muylaert et al., 2014; King, Overland, Fisher, & White, 2015). King et al. (2015) noted that the stories told by the study participants are the means by which these are achieved. They explained that using the narrative approach, the researcher attempts to comprehend the views of the study participants instead of exerting efforts to explain them. This approach was employed in studying the experiences of mental health clinicians in implementing evidence-based treatments (Powell, Hausmann-Stabile, & McMillen (2013). The narrative approach

offers a veritable lens in obtaining substantial information from the study participants on the object of study.

Identifying the appropriate qualitative approach will aid the researcher in identifying suitable qualitative methods to be used collecting data from the study participants. Qualitative methods that have been used to study the perceptions of medical practitioners were observations, in-depth interviews, interaction, field journal, and focus group discussions (FGDs) (Barfoed et al., 2015; Bell et al., 2012; Bjerrum et al., 2012; da Trindade de Andrade, Hennington, de Siqueira, Rolla, & Mannarino, 2015; Gebreegziabher et al., 2016b; Iqbal & Rahman, 2013; Kastner et al., 2014; Kielmann et al., 2014; Lee et al., 2015; Milos et al., 2014; Salve et al., 2016; Solà et al., 2014; Sukumani, Lebese, Khoza, & Risenga, 2012; Vaucher et al., 2016). These were used either as a single method or a combination of these methods.

The use of semistructured interviews was prominent in most of the studies identified. In trying to elicit the perspectives of patients, doctors, and medical students towards TB and treatment adherence, da Trindade de Andrade, Hennington, de Siqueira, Rolla, and Mannarino et al. (2016) used semistructured individual interviews to undertake their study. Equally, Kielmann et al. (2014) used in-depth interviews to elicit the perceptions of private providers towards the TB program. In-depth interviews were also used by Salve et al. (2016) to study the perspectives and experiences of PPs towards the Indian TB program.

Other studies that used in-depth interviews included that of Barfoed et al. (2015) and Sukumani, Lebese, Khoza, and Risenga et al. (2012) in their study of the perceptions

of general practitioners towards guidelines for cardiovascular treatment and experiences of family members caring for TB patients at home respectively. Bjerrum et al. (2012) also used semistructured interviews to study the perceptions of primary health providers towards tuberculosis, while Lee et al. (2015) and Kastner et al. (2014) utilized semistructured interviews to elicit the perception of MPs towards treatment guidelines. Using in-depth interviews, a deeper insight can be gained into the perceptions of PMPs towards treatment guidelines.

Summary and Conclusions

TB is a major public health problem in many parts of the world, especially in developing countries. South East Asia contributes the highest number of cases detected annually. The highest burden of the disease regarding persons detected and the mortality per population is however found in Sub-Saharan Africa. The End TB strategy was developed as a final push to eliminate TB globally. The strategy rests on pillars and principles that, if implemented by NTPs, would accelerate the elimination of TB in the world.

The recognition that partnership with the private sector is crucial to the elimination of TB led to the creation of the PPM strategy. This strategy seeks to engage all health care providers to collaborate with NTPs in TB control. To ensure that these PMPs manage TB patients in line with local and international standards, TB treatment guidelines were developed by most NTPs. These guidelines not only helped to improve TB case detection but also guaranteed that patients are managed in such a way that they obtain good treatment outcomes. Despite the acceptability of the guidelines by MPs in

both the public and private sectors, adherence to these guidelines has been a challenge to many NTPs.

The consequences of nonadherence to treatment guidelines are manifested in poor treatment outcomes, with the consequent increased morbidity and mortality by affected persons and the risk of developing MDR-TB by such persons.

Many studies have described the prescribing practices of PMPs in relation to the TB treatment guidelines and have attempted to proffer reasons for the deviation of their practices from the TB guidelines. Only few studies have looked at the perceptions of PMPs towards the TB treatment guidelines. Grounding the qualitative study in the TPB helped to explain these perceptions. Eliciting these perceptions through qualitative research methods that are embedded on the narrative approach will inform further research on strategies that would improve the utilization of TB treatment guidelines by PMPs. This gap in the literature informed the need for this study.

In chapter 3, the methods that were used to study the perceptions by PMPs towards the NNTTG are outlined and described in detail. In chapter 4, the findings of the study are presented while in chapter 5, the analysis, conclusions, and recommendations for the study are presented.

Chapter 3: Research Method

Introduction

Chapter 3 describes the essential steps in collecting and analyzing data for the research. In this chapter, the purpose of the study, the research design, the role played by the researcher, methodology, issues of trustworthiness, and ethical implications associated with this study are addressed. The research had a qualitative research design using the narrative approach. In-depth interviews were used to obtain data for the study. Data analysis was performed manually and with the aid of qualitative analytical computer software.

Purpose of the Study

The purpose of this narrative study was to explore the perceptions of PMPs in Nigeria about the NNTTG. The research was embedded in the social constructivist paradigm. With this paradigm, the researcher attempts to articulate the meanings of the experiences of the study participants regarding the phenomenon of study and extracts common patterns and themes from these meanings (Creswell, 2013). With the use of the narrative approach, the study participants were encouraged to share their stories regarding their experiences with the NNTTG. These perceptions were elicited through the stories told by the PMPs and will inform further research on effective strategies for engaging the practitioners to adhere to the guidelines in managing TB patients.

Research Design and Rationale

RQ1: What are the perceptions of PMPs towards the NNTTG?

RQ2: What are the experiences of PMPS with using the NNTTG?

RQ3: What are the incentives, barriers, motivations, and demotivations for PMPs to manage TB patients in line with the NNTTG?

Central Phenomenon of the Study

The central phenomenon of the study was perceptions of PMPs towards the NNTTG. The central phenomenon of a qualitative study is the key object that the researcher sets out to study in research (Creswell, 2013). Perception can be defined as professional attitudes, practices, and experiences towards a phenomenon (Barfoed et al., 2015; Bell et al., 2012). The study seeks to discuss the perceptions of PMPs towards the NNTTG.

The qualitative narrative approach was used in studying the perceptions of PMPs towards the NNTTG. Ascertaining an approach to the qualitative study is necessary so that a well-articulated study that is embedded in scholarly literature and amenable to peer review is produced (Creswell, 2013). The narrative approach was the desired approach in studying the perceptions of PMPs towards the NNTTG because it enabled a deeper exploration of the phenomenon of the study as the participants tell the stories of their experience with the use of the guidelines. Creswell (2013) wrote that the narrative approach can serve as the phenomenon itself or as the study methodology. Allowing the participants to tell their stories in the course of their experiences with the use of the guidelines helped me to gather rich information about the experiences of the PMPs with regards to the use of the NNTTG and provide meanings regarding these experiences.

Role of the Researcher

I personally collected data for the research. In qualitative research, the researcher is the research instrument (Denzin & Lincoln, 2003; Greenbank, 2003). The data generated in the process of the research therefore passes through the researcher (Turner, 2010). Qualitative research often involves observing, interviewing, and examining documents and audio-visual materials (Patton, 2015). For this research, semistructured individual interviews were used to collect data from the study participants. All interviews were audio-recorded. Major points and issues raised by the participants were also written down in a notebook.

Qualitative researchers should be constantly aware of the influence of their experiences on the results of the study. Creswell (2013) stated that this is a pitfall in many qualitative research studies. Being an active player in the NTBLCP, I was aware that my knowledge of the program might interfere with my objectivity in presenting the findings of the study. I used epoche or bracketing to deal with this situation. These terms are used to describe the processes in which the researcher attempts to subjugate his personal experiences and concentrates on the phenomenon being studied (Creswell, 2013). To deal with this, I ensured that I adhered strictly to the developed interview questions during data collection. Other limitations in qualitative research are gatekeeper bias or sample frame bias. Gatekeeper bias arises when those that have a personal or work relationship with the study participants are the ones selecting the participants while sample frame bias occurs when only those who have experienced the phenomenon of study are selected (Tuckett, 2004). To control for gatekeeper bias, I scrutinized the list

containing those selected for this and ensured that they were participants that could provide comprehensive information on the research questions. To control for sample frame bias, I ensured that participants to the study included not only those who are presently collaborating in the PPM program of the state but those who previously collaborated with the program but stopped at some point. I also ensured that both female and male PMPs were selected for the study and that those practicing in urban and rural areas were part of the study.

Methodology

Participant Selection

The participants were selected using a purposeful sampling method. Qualitative researchers commonly employ purposeful sampling in their studies in contrast to random and statistically representative sampling that are employed in quantitative research (Gentles et al., 2015). Purposeful sampling is usually informed by the type of participants, the study site, and the required sample size (Creswell, 2013). When properly used, the purposeful sampling technique enhances the recruitment of information-rich cases (Barbour, 2001; Patton, 2015). Creswell (2013) and Patton (2015) suggested that, as much as possible, the participants to be selected should be persons who will offer an in-depth comprehension of the phenomenon being studied.

Participants in the study were registered PMPs practicing in Anambra State, Nigeria. Private practitioners in Anambra State who were collaborating with the NTBLCP regarding TB control at the time of the study or had collaborated with the program in the past were selected for the study. Anambra State was chosen because the

State has a high concentration of PMPs and more than 10 years of experience in the PPM initiative.

Sampling

My study employed the qualitative narrative research approach. Patton (2015) noted that one of the major differences between qualitative and quantitative research is that while qualitative studies use smaller samples, quantitative studies rely on larger samples because the intent of quantitative research is to generalize the findings to the general population. Qualitative researchers strive to identify information-rich cases that will provide sufficient elucidation of the central phenomenon of the research.

The participants in the study were selected from a database of PMPs that have been collaborating with the Anambra State TB and Leprosy Control Program since the inception of the PPM initiative in the state. The database is being kept by the Anambra State TB program and can be easily accessed by researchers upon request. It contains the names of the practitioners, their addresses, and telephone numbers. The database is annually updated to include new collaborators and has a column that indicates whether the PMPs are active or nonactive collaborators.

Fifteen PMPs were selected for participation in the study. The participants that were selected for the study included those practicing in urban and rural areas, currently collaborating with the program, previously collaborated with the program but presently no longer collaborating with the program, and those willing to participate in the study. A database of PMPs, that are updated annually, enabled the identification of these

practitioners. Gender representation was ensured in the selection of the study participants. With guidance from the Anambra State TB control program officers, the PMPs that were selected were the ones that would provide information-rich responses. These were practitioners that have either played an active role in the collaboration with the TB program or had been quite critical of the collaborative process.

The interviews took place between August 22 and August 31, 2017. Each of the participants was interviewed using six pre-prepared semistructured questions. Informed consent was signed by each of the participants before each interview session. They were informed that they could withdraw from the study at any point during the data collection process. Each interview session lasted between 45 and 60 minutes. In some instances, secondary questions followed the primary questions to further obtain useful information from the participants. During the interview process, the participants were encouraged to pose questions to the researcher or seek clarifications with regards to the question(s) asked.

All the interviews were recorded with a digital voice recorder and saved on a memory card inside the recorder. Permission was obtained from each of the participants before recording the interviews. The recording was complemented by field notes that were taken by the researcher. The researcher made attempt not to take copious notes during the interview so that he could observe the body language of the interviewee and equally not disrupt the flow of the interview. On the same day, the notes were developed and made as comprehensive as possible.

Each of the recorded interviews was assigned a specific code representing a specific participant and saved on a password-protected computer. The memory card containing the interview recordings as well as the field notes were stored in a safe place in my home under lock and key for safe keeping and to protect the confidentiality of all participants. Only myself and the dissertation chair will have access to the data. All the data obtained from the study will be kept for five years, as required by the Walden IRB.

Each of the study participants was informed that the study would be made available to them after the final approval of the study. I shared my mobile phone and e-mail contacts with the participants and encouraged them to contact me should they need further clarification or have additional input(s) to make. During the interviews, some participants used the vernacular to express themselves. They were informed that such expressions would not be included in the data transcriptions.

Informed Consent

Those selected were contacted by mobile phone and email and asked to participate in the study after a brief explanation of the purpose of the study. Thereafter, the researcher scheduled a separate meeting with each of the consenting participants in a location chosen by them. During this meeting, the participants were briefed for about 30 minutes concerning the study and encouraged to seek clarifications. Issues discussed during the briefing included the methods of data collection, the data analytic techniques, confidentiality issues, the use of the research findings, and the persons/institutions that will have access to the findings of the study.

This detailed information is a strict requirement of the Walden Institution Review Board (2013). The participants were made to understand that participation in the study was voluntary and that they could withdraw from the study at any point during the research process. All the study participants signed a copy of the informed consent form that was approved by the Walden IRB.

Saturation and sample size

The notion of saturation was considered in the study. Saturation is said to be achieved when additional participants in a study do not provide new information or perspectives on the phenomenon being studied (Gentles et al., 2015; Groenewald, 2004). In my study, I achieved saturation after interviewing the eleventh participant. I did not interview the remaining four participants that have been selected for the study because those interviewed had already provided me with sufficient and rich information needed to answer the research questions.

Instrumentation

Procedure for Data Collection

In-depth interviews were used to gain a deeper insight into the views of the study participants concerning the phenomenon of interest. The process of interviews in qualitative research involves asking specific questions to an individual or a group of people and utilizing the information garnered from the interviews to conceptualize an explanation of the views of the interviewees (Janesick, 2011; Patton, 2015). An interview protocol and six semistructured questions were developed to guide the data collection process. The interview protocol consisted of the title of the thesis, the time of the

interview, the date, the venue, the names of the interviewer and interviewee(s), and the position of the interviewee. The questions that were posed to the participants during the data collection sessions were guided by the semistructured questions that were crafted from the research questions and which were informed by the theory underpinning the study (TPB).

Rapport and trust with the study participants were ensured throughout the data collection process and this enabled me to collect adequate and useful information from them. Creswell (2013) viewed establishing of adequate rapport and trust as vital to enabling the participants to freely express their views concerning the phenomenon of interest. These were given paramount importance during the data collection process.

In-depth Interviews

Each of the participants was interviewed in an agreed location and time. Already-prepared semistructured interview questions were used to interview the participants. Where applicable, primary questions were proceeded by secondary questions to further obtain useful information from the participants. Each interview session lasted between 45 and 60 minutes. Interview sessions in qualitative research last between 30 and 75 minutes (Kvangarsnes et al., 2013; Powell et al., 2013). As the research used the narrative approach, the participants were allowed to freely tell their stories with regards to their experiences with the phenomenon of study. All interviews were audio-recorded with a digital recorder. Field notes were also taken by the researcher during the interviews. A total of 11 interview sessions were held until saturation was reached.

Data storing methods

Audio Recordings

All the interview sessions were recorded with a digital recorder. The recorder was fully charged and pretested before actual use. Easton, McComish, and Greenberg (2000) pointed out that equipment failure is a common cause of qualitative research failure. Groenewald (2004) recommends that recordings be done in a location that is free from background noise and frequent interruptions. Permission was obtained from the interviewees before the audio recordings. Each interview was assigned a specific code, for example, in the urban areas, Participant 1 was coded as “Participant 1 Urban Area (P1UA1)”. A separate audio file was kept for each interview and given the name of the interview code. The audio file was saved in an interview folder on a laptop and on the OneDrive web storage immediately after each interview. The researcher listened to the audio recordings three times on the same day of the interview. During the listening session, further notes were taken, and key words and phrases highlighted.

Field notes

Field notes were taken to complement the audio recordings. This was in the form of memoing, which is the act of documenting observations and responses from study participants and extracting meaningful explanations from them (Miles, Huberman, & Saldaña, 2014). Excessive note taking during the interviews was avoided so as not to limit the researcher’s reflexivity (Creswell, 2013; Easton et al., 2000). Field notes for each interviewee were coded, for example, "Field Note, (P1UA1)”. As with the audio recordings, the field notes were read at least three times on the same as the interview and the notes updated as was necessary.

Debriefing Procedures

After the end of each interview, the researcher thanked the participant for participating in the interview. Each participant was reassured that all the information that was provided will be treated with utmost confidentiality. They were also informed that their views will help the NTBLCP to develop strategies that will improve the control of TB in the country. The participants were given the opportunity to ask questions concerning any of the issues discussed during the interview. Their e-mail and mobile phone number(s) were voluntarily obtained. The researcher also provided the participants with his mobile phone number and e-mail address and encouraged them to contact him should they have any follow-up questions. The participants were informed that the results of the study will be provided to them through their e-mails.

Data Analysis Plan

The analysis of the data collected from the interviews were analyzed manually and with the help of qualitative data analytical computer software. Qualitative data analysis is the process of examining the transcribed data and attempting to comprehend how they speak to the central phenomenon of the study (Fossey, Harvey, McDermott, & Davidson, 2002). A total of six semistructured interview questions were developed for the interviews and the analysis concentrated on information from the transcribed data that related to the research questions. The information in the transcripts was thoroughly dissected out and similar information from the stories told by the participants extracted and placed in a separate document.

Further analysis of the information in the documents consisted of generating codes from them. These codes were further condensed to enable the extraction of themes from them. The coding was carried out manually and with the use of the computer software program. Creswell (2013) noted that between five and seven themes are usually generated from qualitative studies. My study generated 26 codes and from them 10 major themes were extracted. As recommended by Creswell (2013), the codes and themes will facilitate the restorying of the stories told by the participants and placing them in a chronological sequence.

The QSR NVivo computer software was used to aid data analysis in the study. Computer software programs like QSR NVivo save time in data analysis and ensure that complete data analysis is carried out (Creswell, 2013; DiCicco-Bloom & Crabtree, 2006; Patton, 2002). They are also capable of displaying codes and the emerging themes from the research data in a graphical manner (Creswell, 2013; DiCicco-Bloom & Crabtree, 2006; Duff & Séror, 2005; Kolb, 2012; Miles et al., 2014; Patton, 2015). Another unique feature of many computer software programs is that they have the capability of amalgamating the various separate data acquired from the study into a single file (Creswell, 2013). They equally enable the handling of enormous data generated from qualitative studies, manipulation of the data, and easy retrieval of saved documents, instead of manually sorting them from a pile of field notes (Creswell, 2013; Miles et al., 2014; Patton, 2015).

Treatment of discrepant cases

There were two discrepant cases in the study. One was a practitioner who initially collaborated with the TB program in the PPM scheme but eventually stopped. Another was still collaborating with the program at the time of the interview. Researchers are encouraged to seek out negative or discrepant or deviant cases and reflect on the information that they provide (Frankfort-Nachimas & Nachimas, 2008). These are study participants whose views or perceptions are contrary or opposed to the major themes generated from the study (Creswell, 2013; Frankfort-Nachimas & Nachimas, 2008). I analyzed the information provided by these participants with the view of finding out if their views helped in gaining a broader perspective of the central phenomenon of the study.

Issues of Trustworthiness

Trustworthiness in qualitative research refers to the extent in which people will have full confidence in the findings from the study and is akin to reliability, validity, and objectivity in traditional quantitative research (Lincoln & Guba, 1985). To guarantee trustworthiness, the processes involved in data collection and generation of the results of the study should be clearly outlined and seen to conform to a high standard of qualitative research (Graneheim & Lundman, 2004). Criteria for trustworthiness often include credibility, transferability, dependability, and confirmability (Graneheim & Lundman, 2004; Shenton, 2004).

Credibility is equivalent to internal validity in quantitative research (Morrow, 2005). It is concerned with the assurance that the generated data and the procedures involved in the data analysis relate to the main phenomenon of the study (Graneheim &

Lundman, 2004). It also entails spending considerable time with the study participants, acquiring a keen sense of observation, triangulation of data sources, engaging other researchers or peers in reviewing the findings of the study, analysis of information from deviant cases, enhancing the reflexivity of the researcher, and member checking (Creswell, 2013; Morrow 2005). I ensured credibility by ensuring that the reported findings reflect the lived experiences of the study participants regarding the central phenomenon of the study and by employing the above strategies recommended by Creswell and Morrow.

Transferability mirrors external validity in quantitative study. This refers to the degree in which the readers of the study can generalize the findings of the study to their own setting and how the researcher can convince them of the general application of the findings (Graneheim & Lundman, 2004; Morrow, 2005). I achieved transferability in the study by supplying adequate information about myself and succinctly describing the procedures involved in data collection and analysis.

Dependability is synonymous to reliability in quantitative study and details the extent to which the data change over time and how the researcher can account for these changes in the data analytic process (Graneheim & Lundman, 2004; Morrow, 2005). I accomplished this by keeping an audit trail in which I kept a timetable of the research activities and procedures and factors that impacted on these processes. I subjected the audit trail to review by my thesis chair, Dr. Cheryl Anderson.

Confirmability corresponds to objectivity in quantitative study. This is achieved when the readers of the research findings confirm that the findings are adequate to

address the central phenomenon (Morrow, 2005). I achieved this in my study by ensuring that data collected was rich both in quantity and quality and that the analytical process was clearly understood by readers of the research findings. I also achieved this by ensuring reflexivity in the entire research process. This involved acquiescing the influence of my own personal views and experiences in interpreting meanings to the views of the participants and developing strategies to deal with this. Epoche, bracketing, and the keeping of an audit trail were some of the strategies that I used to ensure objectivity in reporting the findings of the study.

Ethical Procedures

My research involved human subjects and therefore requires the highest standards in carrying out the research (Walden University Institution Review Board [IRB], 2008). Obtaining approval from the Walden University IRB is a requirement before data collection. Before embarking on the data collection, I sought and obtained permission from the Walden IRB for study on human subjects. The approval was given to me on July 5, 2017, the approval number being 07-05-17-0346868. In addition to obtaining permission from the IRB, I also got acquainted with the regulations stipulated by the USA Federal Office of Human Research Protections (OHRP), as requires for researchers conducting research outside the USA.

Ethical clearance for the study was obtained from the Ethical Committee of the Anambra State Ministry of Health. All the participants to the study signed an informed consent form before participating in the study. The consent form was in English as all the participants are proficient in spoken and written English language. Any risk or benefit

emanating from the study was clearly explained to the participants. The researcher kept a copy of the signed consent form. Personal information of the participants was kept confidential in line with existing ethical standards in the study areas.

Summary

The quality and adequacy of the findings of an academic qualitative research are dependent on the rigor in which the methods for the study is designed and applied. In this chapter, the purpose of the study as well as the research design and rationale were clearly outlined. The research questions and the role of the researcher in conducting the study were also presented. The study methodology, data analysis plan, issues of trustworthiness, and ethical procedures applied in the study were also succinctly discussed.

Chapter 4: Results

Introduction

The purpose of this qualitative narrative study was to explore the perceptions of PMPs in Nigeria about the NNTTG. The central research question for the study was: What are the perceptions of private medical practitioners towards the Nigerian National Tuberculosis Treatment Guidelines? while the sub-questions are: What are the experiences of private medical practitioners with using the NNTTG? and: what are the incentives, barriers, motivations or demotivations for private medical practitioners to manage TB patients in line with the NNTTG? The participants in the study were selected from a list of registered PMPs in Anambra State, Nigeria.

Participants' Characteristics

Participants were selected from four urban and two rural towns in Anambra State, Nigeria. The towns were chosen based on the need to obtain the perceptions of PMPs in both urban and rural areas. Participation was voluntary. Participants selected for this study satisfied the criteria of selection, with a total of 15 PMPs selected for the study. The participants who were interviewed were either presently collaborating or had previously collaborated with the Anambra State regarding TB control.

The participants were interviewed on agreed upon dates, location, and times. Five of the participants chose to be interviewed in the morning, four in the afternoon, and two in the evening. All participants were interviewed in their consulting rooms in the hospitals. To maintain confidentiality and anonymity, the participants' names were not used. Participants who were interviewed were identified with codes that were assigned to

them by the researcher. Only the researcher could identify the participants with the assigned codes. The following codes were used to identify the participants: In the urban areas, Participant 1 was coded as Participant 1 Urban Area (P1UA1), Participant 2 was referred to as participant 2 Urban Area (P2UA2), Participant 3 was referred to as (P3UA3), with the same codes for Participant 4 (P4UA4), Participant 5 (P5UA5), Participant 6 (P6UA6), and Participant 7 (P7UA7). In the rural areas, the codes were Participant 1 (P1RA1), Participant 2 (P2RA2), Participant 3 (P3RA3), and Participant 4 (P4RA4).

Participants Demographics

Table 1 below provides the participants' demographic information. Their ages ranged from 30 to 80 years. All participants have a bachelors' degree in Medicine and Surgery. Three had a postgraduate specialization in Medicine while three had a Masters' degree in Public Health.

Table 1

Demographics of the Participants

Participant	**Gender**	**Age (yrs)**	**Medical Qualification**	**Presently collaborating with the program**
P1UA1	Male	35	MBBS	Yes
P2UA2	Male	73	MD	No
P1RA1	Male	55	MBBS	Yes
P2RA2	Male	63	MBBS	Yes
P3RA3	Female	63	MBBS	Yes
P4RA4	Male	38	MB., Bch, FWACP	Yes
P3UA3	Male	70	MBBS, FWACP	No
P4UA4	Male	80	MBBS	Yes
P5UA5	Male	Refused	MBBS, FWACP	Yes
P6UA6	Male	60	MBBS	Yes
P7UA7	Female	Refused	MBBS	Yes

Note: P = Participants. U = Urban. A= Area. R = Rural.

Research Procedures

Data Collection

The participants in the study were interviewed between August 22 and 31, 2017. A total of 11 participants were interviewed. Each of the participants was interviewed using six prepared semistructured questions. In some instances, secondary questions followed the primary questions to obtain further useful information from the participants. Each interview session lasted between 45 and 60 minutes. During the interview process, the participants were encouraged to pose questions to the researcher or seek clarifications with regards to the questions asked.

Informed consent forms were signed by each of the participants before each interview session. They were informed that they could withdraw from the study at any point during the data collection process. All the interviews were recorded with a digital voice recorder and saved on a memory card inside the recorder. Permission was obtained from each of the participants before recording the interviews. The recording was complemented by field notes that were taken by the researcher. The researcher made attempts not to take copious notes during the interview so that he could observe the body language of the interviewee and not disrupt the flow of the interview. On the same day, the notes were developed and made as comprehensive as possible.

Each of the recorded interviews were assigned specific codes representing specific participants and saved in a password-protected computer. The memory card containing the interview recordings as well as the field notes were stored in a safe place in my home under lock and key for safe keeping to protect the confidentiality of all

participants. Only myself and the dissertation chair will have access to the data. All the data obtained from the study will be kept for 5 years, as required by the Walden IRB.

Data Analysis

Data analysis was performed both manually and with the aid of the QSR NVivo 11 qualitative analytical computer software. The recorded interviews were transcribed verbatim in a word document. This was to ensure that all the views of the participants were captured. A separate word document was created for each of the interviews. Thereafter, each of the word documents was uploaded into QSR NVivo 11.

Coding Process

The information in each of the transcripts that was uploaded in QSR NVivo was read over and over and similar information from the stories told by the participants were extracted. Asking similar questions to each of the participants enabled me to organize the data into the six interview questions. For each of the interview questions, with the aid of the computer software, I created a node and then coded the node with similar words and phrases that were used by the participants as they told their stories with regards to the interview question. Word frequency counts performed using the NVivo 11 also assisted in the coding of the various nodes. The software also enabled me to query and visualize the data.

Coding the various nodes and visualizing the data with the computer software facilitated the extraction of themes, categories, and patterns from the interviews. My study generated 26 codes from the interview questions and from them, 10 major themes

were extracted. The output from these were saved in a designated subfolder in my dissertation folder.

Treatment of Discrepant Cases

Two of my study participants were discrepant cases. One was a practitioner who is still collaborating with the program but has different views on the diagnosis and treatment of tuberculosis. Another was previously collaborating with the program but no longer collaborates with the program. These two participants were reassured that their views will be succinctly captured in the study. One of the cases particularly asked the researcher to convey his views to all relevant stakeholders in the country.

Evidence of Trustworthiness

Credibility

Credibility in the interviews was accomplished by ensuring that the data generated from the interviews and the procedures involved in the data analysis were consistent with the main phenomenon of the study. I also achieved credibility by ensuring that I spent sufficient time with the study participants. This enabled me to take important notes and to observe the body languages of the interviewees as well as the inflections in their voice tones. Being a key player in the TB control program of the country, I tried as much as possible to subjugate my personal bias and to remain as objective as possible throughout the entire interview process.

Transferability

Transferability was achieved in the study by giving out adequate information about myself and sufficiently explaining the procedures involved in data collection and

analysis. The results of the study are such that readers of the study are convinced to apply the findings of the study to their own settings when dealing with identical populations.

Dependability

I accomplished dependability in the study by keeping an audit trail in which I kept a timetable of the research activities and procedures and factors that impacted on these processes. This could enable other researchers to achieve findings that are consistent with the findings of the study if they apply similar procedures and processes. The stories told by the participants during the interviews were transcribed verbatim enabling the extraction of the views of the participants. The findings were also subjected to the review of my dissertation committee to guarantee that the processes and methodology involved in data collection and analysis conform to acceptable and standard social science research guidelines.

Confirmability

Confirmability in the study was achieved by ensuring that data collected was rich in both quantity and quality and that the analytical process was clear enough to be understood by readers of the research findings. This resulted in the findings of the study being adequate to address the central phenomenon of the study. I also strived to maintain reflexivity during the whole research process. Being an active player in the TB control program of Nigeria, I was careful not to allow my personal bias, views, and experience to influence the interpretation of the meanings given to the views of the study participants. The strategies that I used to accomplish this were epoche, bracketing, and the keeping of an audit trail of the processes used in the data collection and analysis.

Presentation of Interview Data

The responses from the participants were transcribed verbatim into word documents. This enabled me to use the very words of the participants to portray their views on some of the questions posed to them. During the interview, I noted and recorded the voice inflections of the participants and nonverbal communication such as brief silences during talking, gesticulations, and laughter. To reduce the volume of the work, I had to paraphrase some of the responses where the participants were expressing similar views.

Coding of the research questions

Table 2 below identifies the codes identified for each research question. The codes were selected based on word similarities. A total of 26 codes were identified from the six research questions.

Table 2

Codes generated for each research question

Research Questions 1	Research Questions 2	Research Questions 3	Research Questions 4	Research Questions 5	Research Questions 6
TB treatment is difficult	Guideline okay	Training	Inadequate infrastructure	Delivery of public good	Advocacy to the Nigerian Medical Association (NMA)
Rewarding experience	Useful	Regular supply of drugs and materials	Inadequate personnel	Involvement in the TB control program	Engagement of the NMA
TB treatment is free	Grounded in research	Financial remunerations	Lack of incentives	Regular supervision and monitoring	
Direct observation of treatment	Being updated	Diagnostic equipment	Stigma	Controlling attitude of TB control officers	
Compliance	Adequate			Nonchalant attitude of TB control officers	
Duration of treatment	Not comprehensive			Financial demand from TB control officers	
				Stock out of drugs	

Themes Generated from Interviews

Table 3 below shows the themes identified for each research question. The themes were selected based on common views expressed by the participants. 10 major themes were extracted from the interviews.

Table 3

Themes from the research questions

Research Question 1	Research Question 2	Research Question 3	Research Question 4	Research Question 5	Research Question 6
TB treatment is Challenging	TB guidelines useful	Monetary incentive to treat TB patients	Inadequate infrastructure and staff	Contributing to TB control	Engage the Nigerian Medical Association in guidelines development
Compliance with anti-TB drug intake		Training on management of TB patients		Good support from the TB program Frequent anti-TB drug stock-outs	

Research Question 1: Perspectives about Treatment

The first research question was as follows: In your own words, from a private medical practitioner perspective, what can you tell me about Tuberculosis treatment? What has been your experience with treating TB patients?

Responses provided by participants

TB treatment is challenging

Most of the participants were of the view that TB treatment is difficult. Each of the participants told stories of their experience with treating TB patients to buttress the point that TB treatment is difficult. They mentioned that this difficulty is mainly because of the numerous drugs used in the treatment of the disease and the duration of the treatment. P3RA3 highlighted this difficulty with some illustrations. In his words:

> Ehmm …. you know the treatment; the minimum is 6 months, ok, so getting these children to be on drugs for 6 months is challenging. And of course, so you need the commitment of the parents or care givers, so if it is not there, it is going to affect whatever you plan to do for these children.

He mentioned that treating drug-resistant TB poses a bigger challenge, more especially as the duration of treatment is even longer than that drug-susceptible TB. P1UA1 corroborated this view by stating that it is not easy for patients to take treatment for a period of 6 months.

Most of the participants pointed out that managing TB patients is cumbersome. They noted that long hours are usually spent in counseling the patients and this takes so much of staff time, with the attendant loss of revenue for the hospital. They mentioned that this loss of revenue is because of spending too much time with the TB patients and this might result in other patients becoming impatient and leaving the hospital. Besides this, they mentioned that TB management is specialized and often requires the identification and training of specific staff for the diagnosis and treatment of the patients.

Not all the participants agreed that TB treatment is difficult. P3UA3 expressed that he did not see any big deal in treating TB patients. He said, “There is nothing special with treating TB patients”. Surprisingly this practitioner also mentioned that he will never treat

TB patients. His reason was that he will never waste his time treating TB patients when public health workers have been trained in the treatment of the disease. He felt that treating TB patients requires some infrastructures which he is not willing to provide in his hospital.

One of the discrepant cases wonders why so much fuss is made about treating TB when you can treat it for only one month and the patient is cured. He believed TB is always caused by congenital Syphilis and the only way to properly treat TB patients is to treat the two diseases together. In his words "I treat for one month because I treat for Tuberculosis along with the syphilis and it is gone in one month, so why should I continue for one year".

All the participants were of the view that the cost of treating TB patients is presently much cheaper or even free in some instances. They were appreciative of the government for making TB treatment affordable for the people. They mentioned that patients are usually happy to hear that the treatment is free. This, they said, frees the patients of the anxiety of worrying how to afford the treatment.

P2UA2 and P4UA4 while acknowledging that TB treatment is free mentioned that they will charge the TB patients if they treat them in their hospitals. They were of the view that TB patients should be treated in public health facilities where they will not be charged. They said that they will charge them because they pay salaries to their medical and laboratory staff that are responsible for managing the patients. In the words of P4UA4 "If I treat them here, I will charge them. There is no need of treating them here when I know they will get free treatment elsewhere". He emphasized that he will never give free treatment to TB patients in his hospital. He went further to state that even if

government decides to pay him some money for treating TB patients, he will still not be interested in treating them in his hospital.

Compliance

The problem of compliance with treatment elicited a lot of responses from the participants. All of them were of the view that this is one of the major problems confronting the treatment of TB patients. For them, the biggest challenge is motivating the patients to complete their treatment. Every one of them has a story to tell of how some of the patients they were treating have failed to comply with treatment.

The participants mentioned some factors contributing to the failure of TB patients to comply with treatment. Three of the participants mentioned that defaulting from treatment often occurs when the patients start improving with treatment. As one of the female participants said, “some of them still want to dodge and especially when their cough has gone down”. P7UA7 attributed difficulties with compliance with treatment to the side effects of the anti-TB drugs. Two of the participants were of the view that the long duration of TB treatment contributes to the problem of non-compliance with TB.

For P3RA3, compliance with TB treatment is more problematic in children. He mentioned that this is because the practitioner is dealing with both the patient and the parents at the same. He said that in the case of children, the practitioner must be willing to motivate the parents of the child to administer the appropriate treatment to the children and he found this very challenging. He narrated his experiences in getting children to complete six months of treatment.

P1UA1 and P2RA2 blamed the problem of compliance to religious and socio-cultural beliefs. They mentioned that some patients believe that they were poisoned, and this belief often makes them not to have confidence in the efficacy of anti-TB drugs. They enumerated how some of their patients have stopped their treatment and ended up in the homes of traditional healers. They also recounted how some of their patients abandoned their treatment to seek solutions to their illness in prayer houses.

The participants mentioned that the problem of compliance with treatment have motivated them to introduce measures that had improved compliance by their patients. P1RA1 mentioned that they improved compliance in their hospital by ensuring that the patients take the treatment under direct supervision. P3RA3 revealed that her hospital has resorted to consistent counseling and persuasions to prevent patients from defaulting. This, she said, has improved treatment completion by patients. The practitioners agreed that managing TB patients is rewarding when they take their drugs and comply with treatment.

For P4UA4, compliance with treatment by patients will improve if the financial enablers that are presently given to drug-resistant TB cases are extended to all cases of TB. He told the researcher that the financial enabler to drug-resistant cases has resulted in improved adherence to treatment by the patients. He expressed this feeling in this way

> Getting people to adhere to treatment, (pause) ehmm, since we (pause), the resistant cases, those that are on the resistant treatment are being given some financial incentives. I wish it could be extended to all people on treatment, that will reduce the number of people who abandon the program because when they

> abandon the program, they become a public health issue … to the community …We may be coming almost to zero, ehmm, defaulting if that can be implemented.

P1UA1 was of the view that reducing the duration of TB treatment from the present six months to about one month will reduce the number of patients defaulting from treatment.

Research Question 1: Summary of results

Research question one was posed to the participants to elicit their experiences with treating TB patients using the NNTTG. Challenges with treating TB patients in line with the NNTTG and compliance of patients with treatment were the main themes that emerged from this question. For the participants, these challenges are mainly due to the long duration of treatment, religious and socio-cultural beliefs, and the side effects associated with anti-TB drugs. They enumerated the difficulties they encounter when motivating patients to complete their treatment. They noted that the greatest challenge with compliance to treatment occurs when patients start responding to treatment.

In response to the challenges in complying with treatment, many of the participants have introduced some measures to mitigate against default from treatment. These measures include direct observation of treatment and adherence counselling. They will also want the government to provide financial enablers to patients to motivate them to comply with treatment.

Research Question 2: Perceptions about the Nigerian National TB Treatment Guidelines

The second research question was as follows: What is your view about the Nigerian national TB treatment guidelines? What have been your experiences with using the NNTTG in treating TB patients?

Responses from participants

The guidelines are okay

All the participants, except for the discrepant case, perceived the TB treatment guideline to be okay. They mentioned that it is adequate to address most of the areas in TB diagnosis and treatment. They expressed their confidence in the guidelines since they knew that they were borne out of evidence-based research. Besides, they reported that the good thing about the guideline is that it is being updated. As one of the participants who have been collaborating with the program for more than 10 years stated

> I think it is okay as it is, and I think they are reviewed often and on so whatever was not there before is being added and it is getting smaller and easier to read because I remember earlier on when we started the program, it was a little bit quite big but now it's reduced.

Apart from one of the discrepant cases, all the participants reported that they adhere strictly to the guidelines in managing TB patients. For instance, the deviant case mentioned that he does not use the weight of the patient to determine the dosages of the anti-TB drugs to be given to the patient. He was of the view that all TB patients have

reduced immunity, so for him, weight is not necessary in determining the dosages of the drugs to be given to them.

Some of the participants would however wish the guidelines to be modified. P2RA2 was of the view that the guidelines lay much emphasis on sputum smear positive TB cases. He felt that the guidelines do not seem to recognise other TB patients who may have other forms of TB other than sputum smear positive TB. In his words "It is the patient that is infective they are interested in, eheee … the patient that will infect others and so that is why they wrote it that way". He felt that as a private medical practitioner, he is duty bound to treat his patients as a whole and not singling out a particular type of TB to treat. He went further to enumerate the successes he had had with treating TB patients when using his discretion, rather than following the guidelines, when making diagnosis and treating the patients.

Still on improving the diagnostic pathway in the guidelines, the participants were of the view that the guidelines should emphasize more on the process of making diagnosis for a TB patient rather the over-reliance on specific symptoms and signs. They were of the view that the practitioner should be given the liberty to choose which investigations to employ and the order in which they want to do them and not on the current guideline of recommending specific sequence of investigations to be carried out. P4UA4, faults the making of sputum examination the primary investigation to be carried on persons suspected of having TB. He felt that chest x-ray should be the primary investigation to be carried out since x-ray will show the extent of disease in the patient's

lungs. In his words “We do the diagnosis through chest x-ray. Chest x-ray is very important. It is chest x-ray that will tell you the extent of the disease in the patient”.

The pediatrician in the study was of the view that the guidelines do not sufficiently address the challenges of diagnosing and treating TB in children. He stated that the guidelines offer only limited options for the diagnosis of TB in children. For instance, he mentioned that sputum culture remains the gold standard for making TB diagnosis but bemoaned the lack of facilities for culture in the State. He also pointed out that the guidelines were deficient in their description of procedures in obtaining sputum specimens from children. He recommends to the national TB program to include modern ways of diagnosing TB in children in the guidelines.

Another area that the practitioners felt that the guidelines do not sufficiently address is the issue of compliance of patients with TB treatment. They were unanimous in their view that compliance with treatment is a big challenge in TB control. They would want the NTP to articulate specific steps to deal with this.

Despite the positive views of the participants towards the guidelines, on a deeper probe, none of the participants admitted having read the guidelines from cover to cover. As one of the participants put it “I can’t remember the contents of the guidelines, but they were made in good faith”. Another participant, that admitted that he has not read the guidelines from cover to cover, said his approach was to explore areas that are of interest to him. They considered themselves fortunate to have access to the guidelines but worried a lot of PMPs are not aware of the existence of the guidelines. P6UA6 put it succinctly

(visibly excited and with raised tone) Because they don't know. Knowledge is the key. Yes, they don't know. They just don't know and the moment they know they get so overwhelmed. I remember one of the workshops the state TB control officer anchored recently, many people were so shocked and surprised. Just like during our days in medical school, was HIV there? Even all these guidelines and protocols, did you know all these guidelines and protocols; so that's why continuous education is the key. If you don't know it, you don't know it.

Research Question 2: Summary of results

Each of the participants expressed the view that the NNTTG is okay and adequate to meet their needs in diagnosis and treating TB patients. They would want a few areas of the guidelines to be reviewed. These include expanding the diagnostic pathways for adults and children and giving medical practitioners the liberty to choose which investigations to order for people suspecting of having TB and the order or sequence in which the investigations should be ordered. Some of the participants would want more emphasis to be placed on the use of chest x-ray as the primary means of diagnosis. They would also want the national program to give more attention to the challenge of compliance of patients. They felt that that many PMPs are not aware of the guideline and the program should have the guidelines disseminated to as many facilities as possible.

Research Question 3: Perceptions about incentives

What do you think are the incentives for private medical practitioners to adhere to the national guidelines in managing TB patients? How have these incentives affected you personally as you manage your TB patients in line with the TB guidelines?

Responses from participants

The issue of incentives elicited a lot of responses from the participants. All agreed that PMPs involved in the TB program should be given some form of incentives. Incentives they expect from the government include monetary incentives, regular training for doctors and their staff, assistance with making TB diagnosis like providing microscopes and lab reagents, subsidizing cost of chest x-ray, and adequate and regular supply of anti-TB drugs. Apart from P1UA1, all the other participants admitted having received one form of incentive or the other from the TB program.

Monetary incentives

Monetary incentive echoed loudly during the interviews with the participants. All the PMPs interviewed were of the view that there ought to be some form of financial payment to them and their staff for treating the TB patients. One of the participants mentioned that TB is a highly infectious disease and those managing the patients should be given some form of hazard allowance because of the risk they are subjecting themselves to in managing the patients. For P6UA6, "(laughing heartily) there is nobody that does not like incentives". Every one of them was of the view that giving financial incentives to PMPs will encourage them to participate in the TB program.

P2RA2 justified the need for financial incentive for PMPs by stating that, even if the drugs are free, they still must pay their health workers who manage the patients. As one of the participants put it "there has to be something there for the practitioners". P2RA2 also expressed the need for financial incentive for PMPs in the following way:

> you see, eeeeee, eeeeee, the program, the TBL program, they gave us microscopes, they are giving us reagents, they are giving us slides but we are paying the laboratory scientists, we are paying the duty officer who is in charge of the TB program and most of the services we are rendering them is almost free and that is why most of the PMPs are backing out.

He went further to state that in more organized societies and countries with good TB programs, something is given to the practitioners to encourage them to successfully treat a TB case. He advocated for monetary capitation for practitioners who treat TB.

The participants mentioned that financial incentive will act as a stimulus to the TB control program. Narrating that incentives will be a boost to the program, P6UA6 expressed the view that provision of incentives would greatly facilitate the attainment of program targets and he summarized this by saying “People have different views about life but all I know, the bottom line is finance, give them something, so they can be given something to motivate them. Do something and you will be so shocked at the return”. He asked that financial incentives should also be given to laboratory workers that perform TB diagnosis. This view was shared by P1ARA1 and P2RA2.

Training

Training was considered a major incentive for PMPs to adhere to the national TB guidelines in treating TB patients. They mentioned that regular training in the form of seminars and workshops is necessary for them to get acquainted with the guidelines. Apart from the initial contact with the program, most lamented that they have not had further training on the TB program. They stressed the need for doctors to be enlightened

regularly about the TB program. One of the participants mentioned that though he has a copy of the guidelines, he was never trained in the use of the guidelines.

P7UA7 emphasized the importance of training when she expressed the view "for me it boils down to training like see our contact persons go to Lagos and Abuja, it encourages them to do more. Let there be regional training once in a while". For P3RA3, the number one thing is training and more training for PMPs on the TB control program. In her words "education is the key".

Other incentives

Regular provision of basic equipment and materials for the treatment of TB patients was considered as an incentive by the PMPs. P4RA4 captures this when he narrated "but we don't have such facilities as special masks, and then that's just one. I think if these things are provided, then somebody who wants to go into that will know that his or her life is protected". The practitioners also mentioned that they will need a lot of support from government TB program officers in ensuring adherence by the patients. They said that the cost of retrieving defaulting patients is enormous and the government should therefore step in to assist.

Research question 3: Summary of results

Research question 3 dwelt on eliciting the perceptions of PMPs concerning expected incentives from the NTP. Monetary incentive was the most incentive expected by the PMPs. They were of the view that provision of financial remunerations to the PMPs will encourage many PMPs to participate in the NTP and adhere to the NNTTG in managing TB patients. Training followed the monetary incentive. The PMPs perceived

that training is key to encouraging PMPs to adhere to the NNTTG. Other incentives mentioned by the PMPs were regular supply of anti-TB drugs and other materials required for the management of the TB patients.

Research Question 4: Perceptions about barriers to using the NNTTG

What do you think are the barriers for private medical practitioners to use the national TB guidelines in managing TB patients? How have these barriers affected the management of TB patients by private medical practitioners?

Responses from participants

Inadequate infrastructure and staff

The commonest barrier mentioned by the practitioners was lack of adequate infrastructure for infection control practices in many private hospitals. They noted that the guidelines placed a lot of emphasis on infection control and many PMPs who lack such infrastructure for infection control might be unwilling become involved in TB control. Most of the participants mentioned that the lack of isolation facilities in many of the private hospitals is one of the reasons why many PMPs do not want to join the TB program. As P3RA3 put it

> But the thing is that you know that TB is an infectious disease, so a private practitioner that does not have facility for isolation will not likely want to collaborate. If that is the situation the practitioner may not want to collaborate. Government should equip the facilities.

One of the participants told the story of how he was so afraid to come in contact with TB patients during his medical studies. He said that he was able to treat the patients because

the hospital where he trained had a lot of facilities and equipment that would prevent a health worker from being infected with TB. He used the story to stress that many of the PMPs do not want TB patients to come to their hospitals because they lack adequate facilities to prevent the spread of TB in their facilities. This view was shared by another participant who stated that some of the PMPs are afraid that TB patients will infect their staff and other patients in their hospitals.

Inadequate numbers of trained health personnel required for the implementation of TB control activities in facilities were mentioned as another major barrier for PMPs to embrace the TB program. They mentioned that many of the practitioners do not have enough health manpower to implement the recommendations of the guidelines. P2RA2 summarized the feelings of many PMPs in this way

> And I don't have the capacity, I will employ more staff and train them before they can do the TB program. You have to have a well-trained nurse who will be taking care of the patients. But you have to have somebody who is qualified and trusted and you have to pay the person.

He mentioned that without support from the government, many PMPs may not be willing to do that. For P3RA3, equipping the private hospitals with infection control facilities will encourage a lot of PMPs to join the program and manage the patients in line with the national guidelines.

Other barriers to use of NNTTG

Some of the practitioners mentioned that stigma is a major barrier for the involvement of PMPs in the TB program. P4UA4 felt that many PMPs are afraid of

treating TB patients in their hospitals because of fear that TB patients might discourage other patients from coming to the hospital. P3UA3 and P6UA6 on their part felt that stigma is a thing of the past. In the words of P6UA6 “nobody is talking about that now. I am telling you the truth, that one has been overtaken by events now”. He cited instances where TB is being advertised in his hospital and that was contributing to other patients now coming to the hospital.

Two other participants equally narrated how treating TB patients has attracted other patients to their hospitals. P3RA3 mentioned that training of PMPs on the TB control program will deal with the problem of stigma. She put it this way “The more they get aware of the treatment and everything, number one, it will take care of the stigma”. P7UA7 said she has been collaborating with the program for more than 10 years and stigma has not been a problem for her and her staff.

The qualification of the TB program officer was mentioned by three of the participants as a barrier for PMPs joining the program. P2UA2 wondered why such poorly qualified health personnel should even be allowed to be managing TB patients. P7UA7 describes it this way “Sometimes you find out that the people that are working with the government are not qualified, so sometimes they do not even know what they are supposed to do. It’s a big challenge”. P2RA2 and P2UA2 mentioned that they will prefer to be interfacing with fellow doctors in the program.

Lack of incentives for PMPs was perceived by some of the participants as a barrier for PMPs to become involved in the TB program. P2RA2 told the researcher, that for him, the major barrier for PMPs using the TB guidelines in managing TB patients is

the lack of incentives for them. He simply put it this way “I think that what is preventing them from joining is that there is nothing there for me”.

Research question 4: Summary of results

Research question four explored the barriers to the use of the NNTTG by PMPs. From the narrations of the PMPs, the major barrier to the use of the NNTTG was lack of infrastructure in many private to accommodate the implementation of the guidelines for TB control. In the absence of such infrastructures, the PMPs worry that treating TB patients will expose them and their staff/patients to the risk of acquiring TB. They would want the government to provide basic facilities for them before they can implement TB control in their facilities in line with the national guidelines.

Another major barrier to the use of the guidelines is inadequate staff for the implementation of the guidelines. They felt that they need to employ and train specific staff before they can successfully adhere to the guidelines for the management of TB patients. This, they mentioned, will be costly for them. Other barriers they mentioned included stigma, poorly qualified public TB program officers, and lack of incentives for PMPs.

Research Question 5: Perceptions about motivations to adhere to the NNTTG

What would you consider to be the motivating factors in getting private practitioners to adhere to the TB guidelines in managing TB patients? What can you tell me about how the actions or inactions of the national TB program might be demotivating private medical practitioners from using the TB guidelines in managing TB patients?

Responses from participants

Contributing to TB control

Some of the participants mentioned that the biggest motivating factor for them to participate in the TB program is the fact they consider themselves rendering public good. They felt that, since they are receiving free drugs, they are under obligation to help people with the treatment. They mentioned that being called to participate in the TB control activities of the country is a strong motivating factor for them to use the guidelines in managing TB patients. P4UA4 mentioned that

> Ehmm, as a matter of fact, to me, (pause) it is a great honor and privilege to be part of this community service. Ehmm, well, the way I look at it, some organizations volunteered their time and money to send these drugs to us free, and why can't I chip in something? This is the way I look at it, I have never looked at it in from the point of view that I should be paid or given anything for it. I feel satisfied that am contributing something to the community.

As for P6UA6, "For me it's a way of giving back to the community because I believe it is God that will pay me back". P1RA1 and P4UA4 mentioned that they derived some joy in knowing that their hospital is one of the hospitals managing TB patients. Motivation for them is the positive image given to the hospitals judging from the successful stories of patients who have been treated in their hospitals. P1RA1 put it this way

> When they go and they tell of success and they tell others to go, that this is not poison and that it is curable. It really has attracted other patients to the hospital.

> One patient from a major city in the state that was treated for TB abdomen have brought in many patients to the hospital.

Good support

The regular supervision and monitoring of the TB control activities in their hospitals by government program officers was another factor that they mentioned that motivates them to manage the patients in line with the national TB treatment guidelines. P1RA1 and P3RA3 felt happy with the way the program officers come around to check what they are doing. They mentioned that the officers were always coming to ensure that they are managing the patients in line with the TB guidelines. During such visits, they address any gap found especially in providing such logistics as drugs and other materials needed for the smooth running of the program in the hospital. P1RA1 captured this in his words

> They come to inspect the books to make sure. It is encouraging. And they do come. Just three weeks ago, they came, about three personnel from the Federal Ministry of Health came. They came to inspect our records to see what we are doing.

Another motivating factor mentioned by the participants was the recognition of their efforts in TB control activities. For P1RA1, the recognition by the government of the work they are doing is a big motivating factor for him and his staff. He was happy to display the picture he and his staff took with the local government Chairman as he was handing them over a microscope. He mentioned that this was a thrilling moment for him and his staff. P4UA4 mentioned that being nominated as a member of the national PPM

Steering committee was a strong motivating factor for him to continue to render selfless service to TB patients.

Stock out of anti-TB drugs

The participants mentioned that frequent stock out of anti-TB drugs was the most significant factor demotivating them from collaborating with the government TB program. They eulogised the good old days when a donor agency that was initially supporting collaboration with the private sector was responsible for drug provision. For them, it was the golden age in TB control as there was nothing like shortage of anti-TB drugs then. P3RA3 expressed her feelings in this way "(worried look in her face) when patients come, and the drugs are not readily available, maybe is not there as at and when due, they are not happy, we too are not happy because it can breed drug resistance".

They were surprised, that though they could not be supplied with the drugs, the drugs were available in the open market. In the words of P4UA4, "(annoyed) the aspect am not happy about is that these drugs that supposed to free have been found in the open market".

P7UA7 narrated the story of how she once had to wait for a very long time before she received drugs from the TB control program to treat many of her TB patients. All of them however reported that the situation has since improved. P3RA3 mentioned that he now always gets drugs to treat his patients once he makes the diagnosis.

Another demotivating factor mentioned by the participants was the controlling attitude of government TB program officers. They were not comfortable with non-doctors coming to tell them how to diagnose and treat TB patients. P2RA2 narrated that

> Eee, initially, they used to come and act as if they are coming to supervise a doctor. There are doctors who have pride and will not take it that somebody who did community health for two years will now begin to say bring your book and let me see what was done wrongly. … it will be good if doctors are involved in the supervision process. Doctors to talk to fellow doctors.

They mentioned that sometimes when they report problems to the officers, it takes them a long time to respond or they do not respond at all. P7UA7 was visibly angry at some of actions of the officers and expressed her feelings with the following words:

> Well, government attitude, initially when we were working alone with the donor agency, we were sure of training, of the drugs, of the supplies and we were sure of their supervision but when the partnership came, a lot of those things were not happening again. Sometimes we hear the drugs will be there and they will expire. We could not get that synergy with the government.

She mentioned that there was a time that the program officers were demanding money from her to supply drugs to her hospital. She also mentioned they at times they demand that their staff that was invited to a training give them a certain percentage of the money paid to them. Another participant pointed out that he opted out of the TB program because the local government TB program officers were not honest in their desire to collaborate with private hospitals. He mentioned that they want to treat the patients themselves and collect money from them. As he narrated it “What they do now, the people in the local government, they treat the patients. That’s what they do, so there is no point wasting time”.

Summary of research question 5

The fifth research question dwelt on the perceptions that PMPs have about factors that motivate them to adhere to the TB treatment guidelines in managing TB patients and about certain behaviors of public program officers that might be demotivating them from adhering to the guidelines. The biggest motivation for the PMPs to adhere to the NNTTG in treating TB patients arose from their feelings that they are rendering a public good. They mentioned that the opportunity to participate in the TB control efforts of the country spurs them to render selfless service to the community. Being recognized for this contribution encourages them to continue with the collaboration.

A strong demotivating factor for them to employ the guideline in the management of TB patients is the frequent stock out of anti-TB drugs. This, they mentioned, frustrates them with the collaboration with the NTP and threatens their continued collaboration with the program. Other demotivating factors included the controlling attitude of government TB program officers and the dubious practices of some of the officers.

Research question 6: Additional perceptions

In addition to the information you have already provided, is there anything else you will like to tell me about the NNTTG?

Response from participants

Engage the Nigeria Medical Association

Another issue that came out during the interviews was the need to carry out advocacy to the Nigeria Medical Association (NMA) with a view to discussing the guidelines with them and obtain their buy-in. P1RA1 stressed constant dialogue with

doctors in the implementation of program guidelines. He also suggested engaging the NMA in the development of the guidelines. For P3RA3, thrashing out of the issue of incentives with the NMA and reaching an agreement with them on the actual incentives to be paid to the PMPs participating in the TB program will increase the willingness of PMPs to adhere to the guidelines in treating TB patients. As P6UA6 puts it “find out what they need”.

Some of the participants mentioned that constant interaction between the PMPs and the TB control program will improve the buy-in of PMPs to the NNTTG. P4UA4 was sad that this was not happening. In anger, he burst out “(visibly angry) Nobody has ever invited me for any, even the last time some team members came from Abuja, that was the last time that was expressed but nothing seemed to have happened”.

Research question 6: summary of results

Additional perceptions mentioned by the participants was the need to engage the NMA in the development of the NNTTG. They stressed continuous advocacy to the association. Particularly, they were of the view that the NTP should discuss the issue of incentives with the PMPs and ascertain their expectations. They were equally of the view that constant interactions with the PMPs will increase their willingness to adhere to the guidelines in treating TB patients.

Chapter 5: Discussions, Recommendations, and Conclusions

Introduction

The purpose of this qualitative narrative study was to explore the perceptions of PMPs in Nigeria about the NNTTG. The research was embedded in the social constructivist paradigm. With this paradigm, the researcher attempts to articulate the meanings of the experiences of the study participants towards the phenomenon of study as lived by them and extracts common patterns and themes from these meanings (Creswell, 2013). In the study, the narrative approach was used to elicit the views and experiences of PMPs with regards to the NNTTG. I conducted in-depth interviews among 11 purposively selected PMPs and elicited their perceptions towards the NNTTG.

This chapter provides information on the significance of the findings of the study and how they relate to the purpose of the study. The chapter has seven sections. The first section is the introductory part of the chapter and provides information on how the study participants were selected as well as their characteristics and demographics. The second section presents interpretations of the key findings of the study in relationship with the research questions. In the third section of the chapter, there is a discussion on the role the theoretical framework played in eliciting the views of the participants concerning the central phenomenon of the study.

The fourth section of the chapter describes the limitations the study. The major recommendations for future research are presented in the fifth section. In the sixth section, the implications of the study for positive social change are discussed while the last section articulates the main conclusion from the study.

The study participants in the study were selected from urban and rural areas of Anambra State, Nigeria. Four of the participants have their medical practice in rural areas while seven have theirs in urban areas. The participants were made up of two females and nine males. Nine of the participants were still collaborating with the Anambra State TB control program during the study period while two previously collaborated with the program but were no longer doing so. Two of the study participants were discrepant cases. One of them was still collaborating with the program during the study while one left the program many years before the study.

All participants were asked a set of six similar semistructured questions that relate to the central phenomenon of the study. The research questions were the following:

1. In your own words, from a private medical practitioner perspective, what can you tell me about Tuberculosis treatment? What has been your experience with treating TB patients?

2. What is your view about the Nigerian national TB treatment guidelines? What have been your experiences with using the NNTTG in treating TB patients?

3. In your own words, what do you think are the incentives for private medical practitioners to adhere to the national guidelines in managing TB patients? How have these incentives affected you personally as you manage your TB patients in line with the TB guidelines?

4. In your own view, what do you think are the barriers for private medical practitioners to use the national TB guidelines in managing TB patients? How have these barriers affected the management of TB patients by private medical practitioners?

5. In your own words, what would you consider to be the motivating factors in getting private practitioners to adhere to the TB guidelines in managing TB patients? What can you tell me about how the actions or inactions of the national TB program might be demotivating private medical practitioners from using the TB guidelines in managing TB patients?

6. In addition to the information you have already provided, is there anything else you will like to tell me about the national TB treatment guidelines?

The main findings of the study were analyzed in comparison to the findings of other studies that were reviewed in Chapter 2. The findings of the study are expected to add to the body of knowledge regarding the perceptions of PMPs towards NNTTG. The meanings of the views of the PMPs towards the NNTTG were interpreted using the TPB as the theoretical framework. The comparisons with other studies that explored a similar phenomenon of the study and used a similar methodology helped to identify identical and divergent views by the study participants and that of participants in other identified studies. The analyses will help to identify further research themes that will improve the utilization of TB treatment guidelines by PMPs in managing TB patients.

The study identified several themes from the research questions. These themes were extracted based on similar views expressed by the participants concerning the phenomenon being explored. The following themes were identified: TB treatment is challenging, compliance with TB drug intake, TB guidelines useful, monetary incentive to treat TB patients, training on management of TB patients, inadequate infrastructure and staff, contributing to TB control, good support from the TB program, frequent anti-

TB drug stock-outs, and engage the Nigerian Medical Association in guidelines development.

Interpretation of Findings

Literature and Research Question 1 Findings

RQ1: In your own words, from a PMP perspective, what can you tell me about TB treatment? What has been your experience with treating TB patients?

TB has remained a major public health challenge in many developing countries despite advances in the diagnosis and treatment of the disease. These challenges include continued high prevalence of the disease, high death rate, and increasing number of patients with drug-resistant TB (Zumla et al., 2013). In the study, each story told by the participants regarding their experiences managing TB patients tended to point to challenges concerning noncompliance with treatment by patients, the long duration of treatment, number of drugs used in the treatment, religious and sociocultural beliefs, and the side effects associated with anti-TB drugs affecting the strict use of the guidelines by PMPs in treating TB patients.

With regards to the duration of treatment, many participants wished that new research would lead to the reduction of the duration of treatment from the current 6 months. This challenge might have prompted one of the discrepant cases in the study to reduce the duration of treatment for his patients to only one month. This finding in which the participants wished that the duration of treatment be reduced contrasted with the findings of Shin and Kwon (2015) in Korea where the researchers reported that the study participants were clamoring for the guideline to extend the duration of treatment,

especially in patients with cavitations in the lungs, because they felt that the current duration of treatment in the guidelines was not enough to achieve a cure for the patients.

The responses of the study participants indicated that they were having difficulties adhering to the guidelines in managing TB patients. This difficulty is unconnected with the numerous requirements in the guidelines. This perception that the guidelines are cumbersome and too difficult to follow agrees with the findings of Kastner et al. (2014) and Mala et al. (2014) who also reported that their study participants found the guidelines to be difficult to use. Mala et al. (2014) equally reported that the study participants in their study mentioned that following the national TB guidelines for diagnosis would actually delay the diagnosis of the disease. For this same reason, some participants in the study felt that TB patients should be managed in the public sector where there are adequate health personnel and infrastructure to implement the recommendations in the guidelines. Even the participant who felt that treating TB patients was not a big deal was not willing to manage the patients in his facility but would rather choose to refer them to public health facilities.

The participants applauded the TB program for making the TB treatment affordable for the patients and felt that this accounts for the increase in the number of TB patients presenting for treatment as compared to previously. The reduction in the cost of TB treatment might be because of the use of the guidelines by PMPs in managing the patients. Yuwen et al. (2012) in China found that the cost of TB treatment is cheaper when practitioners use the TB guidelines in managing TB patients. In spite of the cheaper TB treatment with the use of the guidelines, some participants were not willing to treat

the patients free of charge. They pointed out that the program only provides free anti-TB drugs and other diagnostic materials, they must pay the salaries of their staff. One of the discrepant cases was vehement in his view that he must charge TB patients if he must treat them.

Another finding from the study which contributes to the difficulty in managing the patients in line with the guidelines is the amount of time spent in attending to one patient if the guidelines are followed. They complained that this takes too much of staff time and results in loss of revenue for the hospital. This finding is in line with the findings of Kastner et al. (2014) in Canada where the researchers reported that practitioners mentioned that adhering to disease specific guidelines entails spending enormous time on a particular patient to the detriment of other patients that could have been attended to in the hospital. Their grouse was that they equally manage other patients and not only TB patients.

Another finding was that TB management is specialized and often requires the identification and training of specific staff for the diagnosis and treatment of the patients. Kastner et al. (2014) equally reported that practitioners fear that they do not have enough human resources that are requirements to manage patients in line with guidelines.

One of the notable findings of the study revolves around compliance of patients to TB treatment. As critical as this is to the outcome of TB treatment, the participants expressed the concern that the NNTTG did not address this important challenge in managing TB patients. They will want the guideline to incorporate this important aspect in the next review. This view that guidelines often fail to address pertinent issues in TB

patient management was equally reported by Atif et al. (2016), Mala et al. (2014), and Wen et al. (2014).

Despite the failure of the guidelines to address issues of patient compliance with treatment, some of the participants narrated their efforts at mitigating the problem. Some of these measures included treatment adherent counselling, direct observation of patients' drug intake, and home visits to patients. The practitioners equally felt that provision of monetary enablers to patients will reduce the proportion of them that discontinue treatment.

Literature and Research Question 2 Findings

Research Question 2. What is your view about the Nigerian national TB treatment guidelines? What have been your experiences with using the NNTTG in treating TB patients?

Each of the participants expressed the view that the NNTTG is okay and adequate to meet their needs in diagnosis and treating TB patients. They would want a few areas of the guidelines to be reviewed. These include expanding the diagnostic pathways for adults and children and giving medical practitioners the liberty to choose which investigations to order for people suspecting of having TB and the order or sequence in which the investigations should be ordered. Some of the participants would want more emphasis to be placed on the use of chest x-ray as the primary means of diagnosis. They would also want the national program to give more attention to the challenge of compliance of patients.

The NNTTG was perceived by ten of the eleven participants to be useful and sufficient to guide the management of TB patients. The findings of Damore et al. (2012) and Kastner et al. (2014) also revealed that practitioners perceived treatment guidelines to be useful in managing patients. Milos et al. (2014) and Solà et al. (2014) also reported that private general practitioners perceived the treatment guidelines to be beneficial to them in their practice. The participants in the study were of the view that the treatment guidelines were borne out of evidence-based research and reported that this increased their confidence in the guidelines. This finding contrasts with the findings of Mala et al. (2014) and Solà et al. (2014) in which the study participants perceived the guidelines as not being backed up by adequate research evidence.

Despite the good commendations of the practitioners of the NNTTG, many admitted not to have read the guidelines from cover to cover. As was observed during the interviews, many of the PMPs were apparently very busy attending to their patients. Milos et al. (2014), Kastner et al. (2014), and Solà et al. (2014) also reported that practitioners in their studies complained of not having enough time to read the TB guidelines and that this constituted a barrier to their use of the guidelines. Participants in the study by Kastner et al. (2014) would want the guidelines to contain a quick summary that could be read by practitioners at a sitting.

Apart from one of the discrepant cases, all the participants reported that they adhere strictly to the guidelines in managing TB patients. In Côte D'Ivoire, South Africa, and India, researchers have reported that less than 25% of TB patients were managed in line with national TB guidelines (Auld et al., 2016; McCarthy et al., 2016; Mishra & Mulani,

2013). Equally, Chiang et al. (2013), Satyanarayana et al. (2015), and Wells et al. (2015) reported that private practitioners were less likely to adhere to TB treatment guidelines in managing TB patients.

Some of the participants in the study perceived the guidelines to be too restrictive. This finding is similar to that of Barfoed et al. (2015) and Milos et al. (2014) who equally reported that practitioners felt that the TB guidelines were not flexible. Some of the participants felt that the developers of the guidelines did not take cognizance of the challenges of private practice. This finding corroborates the finding of Kaster et al. (2014) in which the participants narrated that guidelines often ignore the nature of the practice of the end-user.

Another perception of the end-users as elicited from the study was that the developers of the guidelines have no practical experience with managing TB patients. This view seemed in tandem with the findings of Solà et al. (2014) in which they reported that practitioners often reject guidelines because of their perception that those who develop guidelines have never been involved in managing the patients themselves. Two of the participants in the study openly admitted to using their discretions in the management of TB patients. Kielmann et al. (2014) and Philip et al. (2015) reported that practitioners often resort to managing TB patients using their own regimens because they perceived the guidelines as not being effective in treating TB patients.

This desire for independence in managing TB patients must have prompted some of the participants to wish that they be allowed some flexibility in the management of their patients. This finding agrees with the findings of Milos et al. (2014) and Solà et al. (2014)

who reported that practitioners in their studies were also advocating for independence in managing their patients. This is better represented in using chest X-ray for TB diagnosis. Two of the participants were of the view that chest x-ray should be made the initial investigation for TB diagnosis and not sputum microscopy as recommended by the national guidelines. They felt that chest X-ray has the dual function of identifying patients who might have TB and determining the severity of the disease. This view tallies with the finding of Chiang et al. (2013), Pinto et al. (2013), and Skoura, Zumla, and Bomanji (2015) who reported that private practitioners prefer chest X-ray because it is quick and readily available. The view also supports the practice in developed nations where chest -Xray is the primary means for the diagnosis of TB (Paquette et al., 2014; Pinto et al., 2013; Schito et al., 2015).

Many of the participants in the study narrated that PMPs are not adhering to the NNTTG because they are either not aware of the existence or the guidelines have not been circulated to all facilities. This view is supported by the findings of other researchers in South-East Asia who reported that private practitioners were often not aware of the existence of the guidelines (Achanta, et al., 2013; Islam et al., 2014; Wells et al., 2015; Yimer et al., 2012). Adejumo et al. (2016) contrasted these findings by reporting that even when private practitioners were exposed to the guidelines, they were still not adhering to the guidelines in managing TB patients. Perceptions of MPs towards treatment guidelines have been reported to be influenced by their knowledge of the guidelines and how they perceive them to be useful (Solà et al., 2014).

Some participants in the study were of the view that the guidelines were not holistic and comprehensive enough to address the various challenges in managing TB patients. The pediatrician in the study felt that the guideline should expand the diagnostic criteria for TB in children. This finding is identical to that of other researchers who reported that specialist doctors often perceived the guidelines as not being relevant in their specialist practice (Atif et al., 2016; Mala et al., 2014; Wen et al., 2014). The pediatrician was worried that patients could be wrongly diagnosed if they are managed in line with the recommendations of the guideline as they were. He was concerned that lack of extensive guidelines for diagnosing TB in children could lead to wrong diagnosis. He also stated that the guidelines were deficient in their description of procedures in obtaining sputum specimens from children. He recommends to the NTP to include modern ways of diagnosing TB in children in the guidelines.

Literature and Research Question 3 Findings

Research Question 3. In your own words, what do you think are the incentives for private medical practitioners to adhere to the national guidelines in managing TB patients? How have these incentives affected you personally as you manage your TB patients in line with the TB guidelines?

All the PMPs interviewed were of the view that providing incentives to PMPs will increase their adherence to the guidelines in managing TB patients. This is in line with the findings of Cattamanchi et al. (2015) and Lee et al. (2015) which mentioned that provision of incentives to practitioners will help to overcome the barrier of adherence to treatment guidelines. Monetary incentive was the commonest incentive expected by the

participants. Ajzen (1991), Ajzen (2004), and Solà et al. (2014) noted that money could be a constraint to performing a particular behavior. The message being conveyed by participants in the study is that, without the provision of money to them and their staff, they will be less likely to adhere to the guidelines in managing TB patients. Other mentioned incentives included training, provision of diagnostic equipment, subsidizing the cost of investigations, and regular supply of anti-TB drugs.

Most of the participants narrated that the only training they have had on the management of TB patients was when they were initially enlisted to participate in the program. They perceived that regular training to be in the form of workshops, seminars, and continued medical education would boost the collaboration between them and the NTP. A similar view on the need for training for practitioners were held by practitioners in similar studies conducted among PPs (Cattamanchi et al., 2015; Gebreegziabher et al., 2016b; Hoffmann et al., 2016; Iqbal & Rahman, 2013; Méchaï et al., 2015; Mishra & Mulani, 2013; Vaucher et al., 2016). The importance of training also featured in the findings of researchers who reported that lack of training was accountable for nonadherence to treatment guidelines by practitioners (Cattamanchi et al., 2015; Gebreegziabher et al., 2016b; Hoffman et al., 2016; Iqbal & Rahman, 2013; Naseer et al., 2013; Philip et al., 2016; Solà et al., 2014; Thomas et al., 2016; Wen et al., 2014).

The practitioners in the study were of the view that support from the program in the areas of regular supply of anti-TB drugs and provision of personal protective equipment will assist to manage the patients in line with the guidelines. The findings of Cattamanchi et al. (2015) and Lee et al. (2015) supports this view that regular supply of

anti-TB drugs is a major incentive for practitioners to implement effective TB control measures.

Literature and Research Question 4 Findings

Research Question 4. In your own view, what do you think are the barriers for private medical practitioners to use the national TB guidelines in managing TB patients? How have these barriers affected the management of TB patients by private medical practitioners?

The major barriers mentioned by PMPs to the use of the NNTTG were inadequate infrastructure and staff to implement the recommendations in the guidelines. Most of the participants interviewed perceived these to be the biggest barrier to using the guidelines in the management of the TB patients. This view was an important finding in the study by Gebreegziabher, Yimer, and Bjune (2016b) on the perspectives of health workers and program officers in Ethiopia on the barriers to effective TB control. The practitioners mentioned that many PMPs do not want to collaborate with the program because their facilities lack the basic infrastructure and well-trained personnel to implement TB control activities. This view was also corroborated by Cattamanchi et al. (2015) in their study of the perspectives of health workers in Uganda on barriers to routine TB diagnostic evaluation. In the study, the workers reported the absence of adequate infrastructure for the care of the patients was a major barrier to implementing TB control activities. Equally, Kastner et al. (2014) reported that study participants in their study mentioned that resource-constraint in implementing the requirements of the guidelines constitutes a major barrier to adhering to the guidelines.

Other barriers reported by the study participants included stigma and lack of adequately trained staff. Other researchers equally found that stigma, discrimination, poorly trained health staff, and enormous documentation requirements were barriers to implementation of optimal care activities for the patients (Cattamanchi et al., 2015; Hoffman et al., 2016; Iqbal & Rahman, 2013; Naseer et al., 2013; Philip et al., 2016; Solà et al., 2014; Thomas et al., 2016; Wen et al., 2014).

Literature and Research Question 5 Findings

Research Question 5. In your own words, what would you consider to be the motivating factors in getting private practitioners to adhere to the TB guidelines in managing TB patients? What can you tell me about how the actions or inactions of the national TB program might be demotivating private medical practitioners from using the TB guidelines in managing TB patients?

In the study, the PMPs mentioned that the biggest motivation for the PMPs to adhere to the NNTTG in treating TB patients arose from their feelings that they are contributing to the control of TB in the society. They felt being recognized and engaged in the TB control efforts encourages them to continue in the humanitarian service to the community. They also mentioned that this service gives their hospitals a positive image and serves as positive advertisement for the hospital. The fact that international donor agencies are giving the drugs free to the country equally motivates them to manage the patients in line with the guidelines.

Almost all the participants mentioned that another strong motivation they derive from the program is the frequent supervision and monitoring from the TB program. They

mentioned that the officers were always coming to ensure that they are managing the patients in line with the TB guidelines. During such visits, they address any gap found especially in providing such logistics as drugs and other materials needed for the smooth running of the program in the hospital.

On the other hand, the most demotivating factor for them to employ the guideline in the management of TB patients is the frequent stock out of anti-TB drugs. This, they mentioned, frustrates them with the collaboration with the NTP and threatens their continued collaboration with the program. They mentioned that they are dissatisfied when this happens and the patient themselves feel unhappy. Cattamanchi et al. (2015), Gebreegziabher et al. (2016b) equally found stock out of anti-TB drugs to be a major barrier to effective TB control. To avoid this situation, two of the participants felt that it is better for the patients to be managed in the public sector.

Other demotivating factors included the controlling attitude of government TB program officers and the dubious practices of some of the officers. They were not comfortable with non-doctors coming to tell them how to diagnose and treat TB patients. They mentioned that sometimes when they report problems to the officers, it takes them a long time to respond or they do not respond at all. They reported that the program was running smoothly when it was being supported by an international donor agency. Philip et al. (2016) equally made a similar finding and were of the view that these findings point to the ineffective linkage of PPs to the TB program and the poor coordination of the collaboration with the private sector.

Another participant pointed out that he opted out of the TB program because the local government TB program officers were not honest in their desire to collaborate with private hospitals.

Literature and Research Question 6 Findings

In addition to the information you have already provided, is there anything else you will like to tell me about the national TB treatment guidelines?

The participants in the study were of the view that many challenges encountered with adherence to the guidelines by doctors arose from the non-engagement of the NMA in the initial collaborative efforts. They mentioned that such engagement would have streamlined issues like incentives for the PMPs. This finding agrees with the finding of other researchers who reported that practitioners criticized guideline developers for not involving the end-users in the development of the guidelines (Kastner et al., 2014; Kielmann et al., 2014; Salve et al., 2016; Yuwen et al., 2012). The findings of these studies show that involving practitioners in the development and implementation of the guidelines can help to improve the adherence of the guidelines by the practitioners.

Continuous advocacy to the professional associations was another recommendation made to the NTP in fostering adherence to the guidelines by the practitioners. One of the oldest participants in the collaboration with the NTP could not remember the last time he was called upon to dialogue with the NTP concerning management of TB patients in the private sector.

Theoretical Lens

The theory of planned behavior (TPB) postulates that behavioral intention is influenced by attitude, subjective norm (social pressure), and perceived behavioral control (Azjen, 1991; Ajzen, 2004; Glanz, Rimer, & Viswanath, 2008; NCI, 2005; Rashidian & Russell, 2011; Rashidian & Russell, 2012). The key constructs of the theory are behavioral intention, attitude, subjective norm, and perceived behavioral control (Glanz, Rimer, & Viswanath, 2008; NCI, 2005; Rashidian & Russell, 2011; Rashidian & Russell, 2012). The theory was employed as a lens of analysis to explore the views of PMPs in Anambra State, Nigeria towards the Nigerian national tuberculosis and treatment guidelines (NNTTG). The key constructs of the theory were incorporated into the research questions and this helped me to elicit the perceptions of the PMPs towards the NNTTG. The major findings of the study therefore explained how the PMPs viewed the NNTTG in the light of the major components of the theory.

The TPB is hinged on behavioral intention. This is the perceived likelihood that an individual will perform an action and is an important factor that guides the performance of a behavior (Glanz, Rimer, & Viswanath, 2008; NCI, 2005). Behavioral intention in turn is influenced by attitude, subjective norm, and perceived behavioral control. My study explored how the perception of the PMPs towards the NNTTG will influence their adherence to the guidelines in managing TB patients.

In my study, the most important factor to the intention of PMPs to use the TB guidelines in their clinical practice is perceived behavioral control. Perceived behavioral control is the likelihood that an individual will strive to perform a behavior if there are no

constraints to doing so. In the study, the participants perceived the NNTTG to be okay and adequate for their clinical practice but mentioned certain challenges that will constitute a barrier to PMPs using the guidelines. Non-provision of incentives by the TB program, lack of regular training, lack of adequate infrastructure and health staff, stock-out of anti-TB drugs, negative attitude of TB program officers, and non-provision of basic diagnostic and personal protective equipment by the government were some of the factors that might constitute barriers to PMPs using the NNTTG in managing TB patients.

Attitude was another factor that influenced the perception of the PMPs towards the NNTTG and their likelihood to use the guidelines in managing TB patients. According to the TPB, attitude is the individual's analysis of the behavior to be performed (Ajzen, 1991; Glanz, Rimer, & Viswanath, 2008; NCI, 2005; Rashidian & Russell, 2012). Some of the study participants viewed the treatment guidelines as being too restrictive and not giving them the flexibility to manage their patients as best suits them. Some also perceived the TB control officers as attempting to control them in their practice despite having a lower qualification than them. While most of the practitioners reported that the TB program officers are supportive to them, a few felt they are not helpful to them and are slow to respond to their requests. Most of the participants felt that they are in the program because they have a favorable attitude towards the collaboration with the TB program but pointed out that the majority of PMPs are not collaborating with the program because of their negative attitude towards the program.

No narration of any of the PMPs indicated that subjective norm played any role in how they perceived the NNTTG and their decision to adhere to the guidelines in managing TB patients. Subjective norm deals with whether the behavior is approved or disapproved by a person or individuals that have an influence on the person performing the behavior (Ajzen, 1991; Ajzen, 2011; NCI, 2005; Rashidian & Russell, 2012). None of the participants mentioned any important referent or even professional affiliation as influencing how they view the guidelines. From their responses, they seemed to be individual medical practitioners striking to eke out a living from private medical practice.

Limitations of the Study

Before the commencement of the study, I had already outlined in Chapter one of the study, the various limitations that could affect the study. One of the limitations is that, as at present, very few PMPs are involved in the TB program. Identifying information-rich cases for the study therefore offered a challenge. To deal with this, I had extensive discussions with the Anambra State TB control officers and ensured that participants that could yield sufficient and comprehensive information are selected for the study.

Another limitation of the study is that I am an active participant in the promotion of the collaboration between the public and private sectors in TB control in Nigeria. It was therefore possible that my personal views, knowledge, and experience might have influenced the interpretation given to the views of the study participants. As much as I could, I subjugated my personal views and prejudices while transcribing and analysis the findings of the study. The study had two female participants out of the 11 PMPs that participated in the study. This is a limitation to the study because additional important

views could have been obtained if more females were involved in the study. I had a challenge recruiting more females in the study because few females are working or worked in private health facilities that were collaborating with the TB program in my study location.

A further limitation in the study is that I was the sole researcher in the study and the interpretations of the views of the participants are limited to only myself. Equally, only 11 participants were interviewed in the study. It would be debatable if the views of only these participants could be generalized to the whole population of Anambra State, Nigeria. It could also be argued whether saturation was actually reached when the researcher felt that this point has been reached.

Recommendations

The main phenomenon of this study is on the perception of private medical practitioners (PMPs) towards the Nigeria national tuberculosis treatment guidelines (NNTTG). Eliciting the perceptions of medical practitioners that work in the public sector in future studies will provide a deeper insight of how doctors in this sector perceive the TB treatment guidelines. The study also concentrated on only one State in Nigeria, Anambra State. Future studies should include other states in Nigeria that have equally been implementing the collaboration with the private sector in TB control.

In the study, the participants voiced a lot of concerns about the NNTTG and it is my recommendation that national and state TB control program officers should encourage a study to gain further insight into these concerns. The PMPs in the study perceived that the NNTTG were developed without the involvement of the PMPs

themselves and their professional associations. It is also my recommendation that they be involved in future revisions of the guidelines.

Implications

Positive Social Change

The study provided an opportunity for PMPs in Anambra State, Nigeria to air their views concerning the Nigerian national tuberculosis treatment guidelines (NNTTG). TB prevalence and mortality has remained high in many developing countries, including Nigeria (WHO, 2017). To ensure early detection of the disease and that the highest standards are followed by MPs in the management of the disease, many countries have developed treatment guidelines (Mala et al., 2014; Tafuma et al., 2014; Wang et al., 2016). It is my hope that public health officials in Nigeria and even beyond will benefit from the insights that the study provide in developing strategies that will improve the adherence of PMPs to TB treatment guidelines.

The general perceptions of the PMPs was that the NNTTG are useful in managing persons with TB. Ensuring that the guidelines are widely disseminated to all PMPs irrespective of whether they are currently involved in the TB control program will further stimulate the practitioners to become involved in the TB control program and manage TB patients in line with acceptable standards. Good patient outcomes, with the resultant decline in TB morbidity and mortality, are achieved when MPs use the treatment guidelines in managing TB patients (Adejumo et al., 2016; Anowar et al., 2013; Naidoo et al., 2013; Wen et al., 2014). The study found that many practitioners do not have the time to read the guidelines. Public health officials should therefore not only provide the

guidelines to the PMPs but equally ensure that they are trained on the use of the guidelines.

The results of this study are important in stimulating discussions on the provision of monetary and other incentives for PMPs involved in the TB program. Cattamanchi et al. (2015) and Lee et al. (2015) have stressed that incentives are necessary for health workers to perform optimally in TB control measures. The results of this study also showed that regular provision of anti-TB drugs could act both an incentive and a motivation to effective implementation of TB control measures. Supporting the NTP to establish an effective drug management system will motivate many PMPs to collaborate with the program and assist in reducing the burden of TB in the country.

The results of this study also show that lack of basic infrastructural facilities and inadequate health staff in private health facilities could constitute a major barrier to PMPs adhering to the NNTTG. The NTP should collaborate with international funding agencies and corporate organizations in the country to address infrastructural needs in potential private health facilities that could collaborate with the program. An important finding of the study is that there are PMPs that are willing to contribute to the control of TB in Nigeria. Such PMPs should be identified and supported to implement TB control measures in line with the NNTTG. Another important result of the study is that professional health organizations seemed not to have been involved in the development of the guidelines and in the PPM strategy of the country. The NTP should engage such bodies in future revisions of the NNTTG and in their implementation.

I will make the findings of this study available to the Nigerian national tuberculosis control program (NTBLCP) so that they can be aware of the perceptions of PMPs towards the NNTTG. The results of this study will also be disseminated to the other relevant TB control stakeholders in Nigeria. Equally, I will make myself available to the NTBLCP should they need my assistance in implementing further research or developing strategies to improve the adherence of PMPs to the NNTTG. It is my sincere hope that the findings of this study will promote positive social change in Nigeria through an understanding of how PMPs view the TB treatment guidelines and that this will in turn lead to an increased active participation of them in TB control and improved management of TB patients. This may in turn lead to the reduction in the morbidity and mortality associated with TB in Nigeria.

Conclusion

Based on the interpretations given to the stories told by the study participants with reference to the NNTTG, I could derive that the participants perceived the NNTTG to be useful in the diagnosis and treatment of TB patients. They would want the NTP to do more to ensure that the guideline is disseminated to as many practitioners as possible and that certain barriers to the use of the guidelines are addressed. The study is important because it allowed the PMPs to express their views concerning the NNTTG and how they perceived that the guidelines would be used to improve the management of TB patients. The PMPs acknowledged that TB treatment is challenging and that this challenge is often compounded by difficulties in getting patients to complete the full course of treatment. Other challenges militating effective management of TB patients included the long

duration of treatment, religious and socio-cultural beliefs, and the side effects associated with anti-TB drugs. They were of the view that the NNTTG in their current form do not sufficiently address these challenges.

The NNTTG was perceived by the PMPs to be adequate to meet most of their needs in diagnosis and treating TB patients. They would however want the guidelines to be developed in such a manner as would give them offer some flexibility in the diagnosis of TB. One prominent finding of the study was the expectation of financial incentives by the PMPs. They were of the view that provision of monetary incentives will encourage many PMPs to participate in the TB program and adhere to the guidelines in the management of the patients. Training was another key incentive mentioned by the participants that will motivate PMPs to adhere to the NNTTG.

An important finding of the study was that PMPs perceived lack of adequate infrastructure and health staff as constituting barriers to PMPs adhering to the guidelines. The infrastructural and human resource requirements for the implementation of the guidelines preclude many PMPs from collaborating with the TB program. The feeling that they are rendering an important public good and contributing to the control of TB in the country were the biggest motivation for them to be treating the TB patients in line with the NNTTG. Frequent stock out of anti-TB drugs and the attitude of TB control program officers in addressing was perceived as their most demotivating factor in collaborating with the program.

A major finding of the study was the view by PMPs that the umbrella organizations of medical practitioners should be involved in the development and

implementation of the guidelines. They mentioned that the organizations, if engaged, should facilitate discussions on major issues hampering the implementation of the recommendations in the NNTTG, especially the expectation of financial incentives by PMPs.

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Appendix A: Invitational E-mail

Dear Dr. …….

My name is Dr. Chijioke Osakwe, a graduate student at Walden University's Health Sciences program. I am carrying out a study in partial fulfilment of the requirements for the award of the degree of PhD. My study is on the perceptions of private medical practitioners towards the Nigerian national tuberculosis treatment guidelines. You are selected to participate in this study because you are a private medical practitioner who is presently collaborating with the national TB program or have previously collaborated with the program in the treatment of TB patients and you meet the criteria for selection to be included in this study.

I will like to interview you at a time and place that is convenient to you. The interview will last between 45 to 90 minutes. Please, note that your participation in this study is on a voluntary basis and all your views and the information you provided will be treated with utmost confidentiality. I wish to remind you that you are free to discontinue your

participation in the research at any time. All the information you provided will be kept in a secured place and only myself will have access to the information. Your identity will also be kept confidential. I will contact you again by phone in a week's time to ascertain your willingness to participate in this study.

I am looking forward to your participation and as a co-researcher, your views will assist the national TB program in identifying effective strategies for improving the adherence of private medical practitioners to the national TB treatment guidelines in treating TB patients.

Thank you for considering to participate in this research.

Sincerely,

Dr. Chijioke Osakwe

Phone number: +234 803 667 8022

E-mail address: chijioke.osakwe@waldenu.edu

Appendix B: Interview Protocol

Topic: Perceptions of Private Medical Practitioners towards the Nigerian National Tuberculosis Treatment Guidelines

Time of Interview:
Date:
Place:
Interviewer: Dr. Chijioke Osakwe
Interviewee:
Position of Interviewee:

Interview Question 1

In your own words, from a private medical practitioner perspective, what can you tell me about
Tuberculosis treatment? What has been your experience with treating TB patients?

Interview Question 2

What is your view about the Nigerian national TB treatment guidelines? What have been your experiences with using the NNTTG in treating TB patients?

Interview Question 3

In your own words, what do you think are the incentives for private medical practitioners to adhere to the national guidelines in managing TB patients? How have these incentives affected you personally as you manage your TB patients in line with the TB guidelines?

Interview Question 4

In your own view, what do you think are the barriers for private medical practitioners to use the national TB guidelines in managing TB patients? How have these barriers affected the management of TB patients by private medical practitioners?

Interview Question 5

In your own words, what would you consider to be the motivating factors in getting private practitioners to adhere to the TB guidelines in managing TB patients? What can you tell me about how the actions or inactions of the national TB program might be demotivating private medical practitioners from using the TB guidelines in managing TB patients?

Interview Question 6

In addition to the information you have already provided, is there anything else you will like to tell me about the national TB treatment guidelines.

General Comments

Thank you for participating in this study. All the information obtained during this interview will be made available to you once completed. Once again I want to assure you that the information obtained from this interview will be kept safe and confidential. If you are satisfied with the interview process, this interview ends today at (Time:_____)

Appendix C: Ministry of Health Approval

ANAMBRA STATE OF NIGERIA
MINISTRY OF HEALTH

JEROME UDOJI SECRETARIAT
COMPLEX
P. M. B. 6002
AWKA.

Your Ref:.....

Our Ref: STBLCP/mon/17/01/010

.....

Anambra State tuberculosis and
Leprosy Control Programme,
Anambra State Ministry of Health,
Awka.
29th June, 2017.

Dear Dr. Chijioke Osakwe,

LETTER OF COOPERATION

Based on my review of your research proposal, I give permission for you to conduct the study entitled Perceptions of Private Medical Practitioners towards the Nigerian National Tuberculosis Treatment Guidelines among registered private medical practitioners in Anambra state. As part of this study, I authorize you to identify and interviewing private medical practitioners in Anambra state. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: assisting the researcher in identifying private medical practitioners to be recruited in the study. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the student will not be naming our organization in the doctoral project report that is published in Proquest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

29/06/17

Dr. Okolie .P. Ifeanyichukwu
Anambra State Tuberculosis and Leprosy Control Officer

Appendix D: Curriculum Vitae

Address:

Plot 174 IDF Karu Housing Estate

Abacha Road – Karu LGA

Nasarawa State - Nigeria

E-mail Address

chijiosakwe@yahoo.com

+234 803 667 8022

Personal Details:

Date of Birth:	-	May 14, 1965
Sex:	-	Male
Tribe:	-	Igbo
State of Origin:	-	Anambra State
Nationality	-	Nigerian
Marital Status:	-	Married

Personal Qualities and Values:

- Humble, patient and hardworking
- Good working relationship with colleagues
- An achiever
- Dependable and reliable.
- Honest and accountable
- Imaginative and strategic thinker

Key Skills/Experience:

- Epidemiological analysis of disease control programs
- Planning and conduct of National TB prevalence surveys and drug-resistant TB surveys

- Development of operational and strategic plans for the TB and Leprosy Control Program
- Development and writing of proposals and workplans for implementation of TB and Leprosy control activities.
- Monitoring and Evaluation of National TB and Leprosy Control Programs (I participated in all the monitoring and evaluation missions for the Nigerian National TB program since 2004. I also participated in two program evaluations for the German Leprosy and TB Relief Association).
- Supervision, monitoring, evaluation and capacity building of TB and Leprosy program officers and general health care workers involved in the TB and Leprosy Control Program
- Planning, supervision and monitoring of TB and TB/HIV collaborative activities
- Experience in basic and operational Research, especially in TB and HIV programs.
- Analysis of TB and Leprosy statistical reports
- Public Health consultancy services. Has done consultancy services for the following organizations:
    - German Leprosy and TB Relief Association (GLRA)
    - The Leprosy Mission Nigeria (TLMN)
    - Association for Reproductive and Family Health (ARFH)
    - Institute for Human Virology Nigeria (IHVN)
    - Initiatives Inc. Boston, USA
- Design and implementation of rural health programs
- Establishment and running of Non-Governmental Organizations
- Proficient in the use of E-TB Manager
- Trainer of TBL workers in the use of the E-TB Manager
- Proficient in the use Microsoft Word, Excel, Power Point, Access, EPI – Info Package, SPSS, QSR Nvivo and Health Mapper.
- Application and use of the Internet.

Schools Attended:

1. Walden University, USA 2013 - 2018
2. University of Heidelberg, Germany 1997 - 1998
3. University of Calabar, Calabar – Nigeria 1983 – 1989.
4. Christ the King College, Onitsha 1977 – 1982.

Summary of Qualifications:

1. PhD Public Health 2018
2. MSc (Community Health and Health Management) 1998
3. Bachelor of Medicine, Bachelor of Surgery (MB., Bch) 1989
4. West African School Certificate (WASC). 1982

International Courses Attended

1. Communication, Advocacy, Moderation and Training Skills Course, East Ardsley, United Kingdom, 31st October – 4th November, 2011
2. Leadership and Management Course for TB Program Managers, National TB and Leprosy Training Centre, Zaria – Nigeria, July 26 – August 6, 2010
3. Tuberculosis Program Manager's Intensive Course, Francis J. Curry National TB Centre, San Francisco – USA, July 31 – August 10, 2007
4. Training Course for PPM - TB Consultants, Sondalo, Italy, 11 – 18 April, 2007.
5. Essentials of Leprosy and Tuberculosis for Physicians Course, Addis Ababa – Ethiopia, September 4 – October 13, 2000.
6. International Course on TB Control, Arusha -Tanzania, April 3 – 21, 1995

International Workshops attended

1. Hospitals DOTS Linkage (HDL) Action Plan Development Workshop, Yogyakarta, Indonesia, Jan 25 – 31, 2010
2. NTP Managers Capacity Building Workshop, Brazaville, Congo, 26 – 30 May, 2008
3. International Workshop on Hospital DOTS Linkage (HDL), Bali, Indonesia, June 19 – 22, 2007.
4. Multi-Country Workshop on National PPM Planning, Cairo, Egypt, February 25 – 28, 2007.

International Meetings/Conferences attended

1. NTP Managers Meeting, Nairobi, Kenya, 14 – 16 October, 2013
2. 19th African Region International Conference of the International Union Against Tuberculosis and Lung Disease, Kigali, Rwanda, June, 2013
3. World Conference of the International Union Against TB and Lung Diseases (IUATLD) in Kuala Lumpur, Malaysia, November, 2012
4. 18th African Region International Conference of the International Union Against Tuberculosis and Lung Disease, Abuja, Nigeria, March, 2011

Local WHO Courses Attended

1. Workshop for TB Program Managers on 'TB Control at District Level', Enugu – Nigeria, 30 October – 5 November, 1995
2. Management Program for Leprosy Control Course, Ilorin - Nigeria, 9 – 18 March, 1997

Training Facilitations

1. Serves as a Facilitator for the National TB and Leprosy Training Centre, Zaria – Nigeria
2. Serves as a Facilitator for KNCV - Nigeria
3. Facilitates in many Program Management, TB, TB/HIV, DR-TB and Leprosy Training Courses and Workshops in Nigeria

EMPLOYMENT HISTORY AND EXPERIENCES

1. Current Employer: Federal Ministry of Health/The Leprosy Mission Nigeria

Current Position: Project Manager, Nigerian Case Management Neglected Tropical Diseases (NTD) Mapping Project (Part-time job)

Main Duties:

1. Development of tools for mapping of case management NTDs in Nigeria
2. Development of the management plan in line with the workplan and budget for the mapping project.
3. Coordination of the implementation of the mapping project
4. Capacity building of State program officers on the mapping project
5. Provision of oversight to the project staff and field officers

6. Ensuring proper budgetary allocation of all mapping activities
7. Production of periodic progress reports for the mapping project

2. Employer: World Health Organization/Nigeria

Position: National Professional Officer (TUB) – April 2005 to March 2016

Main Duties:

Provision of technical support for the National TB and Leprosy control program on Policy issues, strategic and operational planning for the overall TB control within integrated disease control and health sector development;

1. Facilitating the **creation of a functional and collaborative linkage** with other Ministry of health Programs notably, the **AIDS Control Program** and Essential Drug Program (EDP), Integrated Disease Surveillance Program (IDS) etc. using as a guide the "framework for collaboration between NTCP and NACP" developed by AFRO;
2. Provision of technical support to the national authorities to prepare consultations with partners and other stakeholders;
3. Facilitating the **creation of functional and collaborative network** with programs such as HIV/AIDS/STI, Leprosy, EDP, IDS and other relevant and Ministry of Health programs;
4. Provision of technical support to the National TB and Leprosy control program during the developing of plans for social and resource mobilization;
5. Facilitating the design, implementation and evaluation of relevant **TB and Leprosy operational research**, and incorporation of research findings into program policy, as well as, fostering collaboration between research institutions and the program to ensure that relevant research is carried out to improve TB control;
6. Participating in program **monitoring and evaluation** to ensure quality of data collection and use of information for replanning;
7. Participating in the quarterly organisation of national TB and Leprosy control task force/committee meetings to provide opportunities to establish consensus on technical and policy issues, and to sustain partners' level interest in TB control;

3. Employer: German Leprosy and Tuberculosis Relief Association

Position: Medical Adviser - 1 April 2003- 31 March 2005.

Main Duties:

1. Provision of Technical Support to State Tuberculosis and Leprosy Control

Programs in Program planning and preparation of quarterly and annual reports

2. Undertaking of advocacy to State and Local Government officials for resource mobilisation to the Tuberculosis and Leprosy Control
3. Training of Tuberculosis and Leprosy program officers and general health workers in Tuberculosis and Leprosy Control
4. Supervision and monitoring of the Tuberculosis and Leprosy Control Program in 14 states in the south of Nigeria
5. Participating in the evaluation of Tuberculosis and Leprosy Control Program in the country.

4. Employer: German Leprosy and Tuberculosis Relief Association

a. Position: Medical Consultant - 1 January 2002 – 31 March 2003

Main Duties:

1. Provision of Technical Support to State Tuberculosis and Leprosy Control Programs in Program planning and preparation of quarterly and annual reports
2. Undertaking of advocacy to State and Local Government officials for resource mobilisation to the Tuberculosis and Leprosy Control
3. Training of Tuberculosis and Leprosy program officers and general health workers in Tuberculosis and Leprosy Control
4. Supervision and monitoring of the Tuberculosis and Leprosy Control Program in 14 states in the south of Nigeria
5. Participating in the evaluation of Tuberculosis and Leprosy Control Program in the country.

5. Employer: Nigeria Reformed Church, Onuenyim Agbaja – Izzi - Nigeria

Position: Medical Director - 1 April 2001 – 31 March 2003

Main Duties:

1. Oversees TB and Leprosy control activities in the program
2. Organising clinical services in a rural missionary health institution
3. Organisation of community outreach health activities
4. Treatment of complicated medical illnesses
5. Medical and surgical management of complicated obstetric cases

6. Employer: St. Patrick's Hospital, Mile Four, Abakaliki - Nigeria

Position: Medical Superintendent/TB and Leprosy Control Officer - 1 September 1994 – 31 March 2001

Main Duties:

1. As a member of the hospital executive, involved in the day to day running of the hospital
2. Planning medical services in the hospital
3. Oversees Leprosy and TB control activities in the hospital
4. Performance of septic surgeries, amputations, and skin grafting for leprosy patients
5. Organisation and supervision of rural community outreach health activities
6. Medical and surgical management of patients in the hospital
7. Training of health workers in the hospital
8. Preparation of the hospital's annual report

7. Employer: St. Patrick's Hospital, Mile Four, Abakaliki - Nigeria

Position: Medical Officer - 1 October 1991 – 30 November 1993

Main Duties:

- Management of tuberculosis and leprosy patients both in the hospital and in the field
- Medical and surgical management of various kinds of patients in the hospital
- Child Welfare and Obstetric services including surgery

8. Employer: Cape Hospital and Maternity, Umuoji, Anambra State – Nigeria

Position: Medical Superintendent - 1 December 1993 – 31 August 1994

Main Duties:

- Medical and surgical management of patients
- Health education activities in surrounding secondary schools

9. Employer: National Youth Service Corps

Position: Medical Officer, Ossiomo Specialist Hospital, Ogan, Edo State - Nigeria - September 1990 – September 1991

Main Duties:

- Medical and surgical management of patients
- Management of tuberculosis and leprosy patients both in the hospital and in the field

10. Employer: University of Nigeria Teaching Hospital Enugu.

Position: House Officer - August 1989 – July 1990

Main Duties:

Medical Clerkship/Rotations in the Departments of Medicine/Psychiatry, Pediatrics, Obstetrics and Gynecology, and Surgery.

Registration with Professional Bodies:

Permanent Registration with the Medical and Dental Council of Nigeria

Membership of Professional Bodies:

1. Nigerian Medical Association (NMA)
2. American Public Health Association (APHA)
3. Member Golden Key International Honour Society

Non-Governmental Organization Affiliation:

1. Initiative for Prevention and Control of Tuberculosis and Lung Diseases (IPCTLD) - President
2. RedAid Nigeria – Chairman, Board of Trustees
3. JESHIO Consultancy Ltd

Research/Dissertation/Publications/Special Reports:

Osakwe, C., Otte, W. M., & Alo, C. (2014). Epilepsy prevalence, potential causes and social beliefs in Ebonyi State and Benue State, Nigeria. *Epilepsy research*, *108*(2), 316-326.

Ogbudebe, C. L., Chukwu, J. N., Nwafor, C. C., Meka, A. O., Ekeke, N., Madichie, N. Osakwe, C., & Oshi, D. C. (2015). Reaching the underserved: Active tuberculosis case finding in urban slums in southeastern Nigeria. *International journal of mycobacteriology*, *4*(1), 18-24.

Ukwaja, K. N., Alobu, I., Ifebunandu, N., & Osakwe, C. P (2012). Trends in treatment outcome of smear-positive pulmonary tuberculosis in Southeastern Nigeria, 1999–2008. *Italian Journal of Public Health*, *9*(4).

Ukwaja, K., Alobu, I., Ifebunandu, N., Osakwe, C., & Igwenyi, C. (2011). From DOTS to the Stop TB Strategy: DOTS coverage and trend of tuberculosis notification in Ebonyi, southeastern Nigeria, 1998-2009. *Pan African Medical Journal*, *9*(1).

Osakwe, C. (1998). Assessment of Prescribing Practices of Health Workers in Bamenda District, Cameroon, 1998 (MSc Thesis)

Accepted Abstracts for the International Union Against TB and Lung Diseases (IUATLD) Conferences:

1. Contribution of Public Private Mix (PPM) in TB Control in Anambra and Ebonyi States of Nigeria, 2011
2. 2 months' follow-up sputum not a good predictor of outcome of TB treatment, 2007

Languages Spoken:

Igbo, English, French (Basic)