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Midwives' Views Regarding Tuberculosis Screening amongst HIV/AIDS Positive Pregnant Women South Africa



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Abstract

Tuberculosis (TB) infections is classified as one of the non-pregnancy related infections (NPRI) which cause maternal mortality. Therefore, it was important for the researcher to explore the challenges faced by midwives regarding TB screening as it is the most leading complication in human immunodeficiency virus (HIV) infected pregnant women. To that effect, several strategies for TB screening during pregnancy have been introduced and implemented thus far. Screening of TB during antenatal care helps to enhance early detection, exclusion and treatment of the infection in pregnant women who are HIV positive. The study used qualitative descriptive research design. The population included all midwives aged 30 to 48 years, who were working at primary health (PHC) clinics in Kganya local area, Capricorn District, Limpopo Province in South Africa. Nonprobability purposive sampling technique was employed to select ten midwives. Data were collected through in-depth individual semi -structured interviews with ten midwives. Data analysis was accomplished, using the manual thematic analysis according to Tesch's method of data analysis. Finally the main themes were extracted. Two themes emerged from the study, namely: Challenges regarding TB screening; Measures that can enhance TB screening. It is important that the department of health should pay attention to challenges faced by midwives to ensure adequate TB screening amongst HIV positive pregnant women. Capacitating both midwives and the community with knowledge regarding TB screening during pregnancy can be beneficial to the health of the pregnant women and their unborn babies.

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INTRODUCTION

Tuberculosis is the most popular respiratory infection ranking above HIV globally (World Health Organisation, 2019). The HIV increases the chance of TB infection in pregnancy, hence HIV infection complicated by TB is the first indirect cause of maternal mortality (South Africa, 2018). As a result, there is a high risk for progression from latent to active TB in HIV pregnant women (McKenna, Frick, Lee, Namutamba, Smit, Theunissen, Vandeveld, Madoori, Snow and Seaworth, 2017). Diagnosis of TB during pregnancy is usually a challenge in South Africa (SA) as TB screening statistics in pregnancy are usually not reported (Mnqayi, 2016). Tuberculosis screening during antenatal care can assist with early diagnosis and prompt management to reduce maternal mortality due to HIV/TB co-infection.

So far, several TB screening methods have been introduced. According to Gebreegziabih, Adane and Abebe, (2017), the most common method which is used in SA is the four-part strategy symptom-based intensified case finding as recommended by World Health Organisation (WHO). In an effort to reduce TB transmission to the entire population, the WHO (2018) further introduced the sustainable development goals (SDGs) which was also adopted by SA. Furthermore, SA introduced 90-90-90 strategy in 2014 to fast-track targets called as the End-TB strategy (Malaza, Smith, Mdaka, Haynes, and Shezi, 2016.) The END-TB strategy aimed to achieve 90% TB screening in key population, 90% of those diagnosed with TB to be started on treatment and lastly 90% of those initiated to complete their treatment. In that regard, it is imperative to investigate common structural barriers to implementation of integrated antenatal care, of which TB screening is included (Fowks, Draper, Hellard and Stoope, 2016).

TB infection is ranked the third among causes of maternal death in SA, the first being obstetric haemorrhage followed by hypertension (South Africa, 2016). It is further stated that TB screening and initiation of TB preventive therapy to HIV positive pregnant women can reduce maternal mortality (South Africa, 2016). From maternal and mortality meetings which the researcher attend more often at the local hospital, most maternal mortality is due to HIV/TB co-infection. Anecdotal suggests that HIV positive pregnant women are not properly screened for TB infection. The researcher observed that in most maternity case records,

patients' files and ante-natal registers there is no record of TB screening of pregnant women in Limpopo Capricorn district. Of great concern, in the year 2016 Capricorn district had 38 maternal deaths of which 10.5 (37.7%) were due to HIV complicated by TB (Limpopo Department of Health 2017). With this leading maternal killer being non-pregnancy related infections, there was a dearth of literature regarding challenges faced by midwives regarding TB screening among HIV positive pregnant women in the setting. Several studies were conducted in Limpopo Province, with limited focus on TB screening amongst HIV positive pregnant women (Tshililo, Mangena-Netshikweta, Nemathaga and Maluleke, 2019; Mulondo, Khoza and Maputle, 2015; Lekhuleni, Kgole and Mbombi, 2015). Views of the midwives regarding TB screening amongst HIV positive pregnant women, has not been adequately studied in Limpopo Province. Thus, a qualitative paradigm is employed for this research as the study intends to explore challenges regarding TB screening of HIV positive pregnant based on the views of the midwives in naturalistic and interpretive domains.

METHODS

A qualitative exploratory descriptive design was espoused for this study. Exploration of views is important because there are multiple subjective meanings and understandings about certain objects or things in a certain social setting of the world in which humans live. The study espoused purposive sampling technique to select the participants. The inclusion criteria entailed midwives with more than five years' experience, working at the research setting and trained on the following: prevention of mother to child transmission (PMTCT), HIV and TB management.

Anonymity and confidentiality were ensured by naming participants as P1 to P10. Ethics committee approval (Reference number: HSHDC/934/2019) was obtained from Research Ethics committee, University of South Africa, together with permissions from Limpopo Department of health ethics committee (Reference number LP-202001-015). Permission was also sought from the clinic operational managers. Information sheets were given to the participants before the interview date and all clarity seeking questions were answered by the researcher. Participants who were willing to take part in the study signed an informed consent form before the commencement of an interview.

Semi structured individual digital interviews were conducted from December 2020 to June 2021. The participants were recruited individually through telephones. The contact details of participants were provided by the clinic managers. The location of interviews was Capricon district of Limpopo province, Kganya local area which render both PHC and maternity health services. The setting was selected because of high incidents of maternal deaths related to TB amongst HIV positive pregnant women. The researcher secured an appointment for dates, times suitable and convenient for the participants. The digital interview methods such as zoom and teams were used because the face-to-face interactions were prohibited due to Covid-19 regulations. These interviews were conducted during the working period at the most convenient periods of the

midwives. Regardless of the method chosen, all participants permitted the interview to be recorded. The average time for the interview was one hour.

Data was analysed using the eight steps of Tesch method of data analysis as follows: Manual analysis of data was done, and data collected was reduced to codes following the rate of occurrence of concepts utilized in the actual transcriptions. Topics with the same meaning were grouped. The topics which belonged alone were grouped separately from others. Themes, categories, and sub-categories surfaced from the coded data in which initial data analysis was carried out (Green and Thorogood, 2018). Analysis of data was done by the researcher with no predetermined theoretical coding structure. The researcher and the co-coder met thereafter to reach an agreement on the themes, categories, and sub-categories both reached.

RESULTS

Data saturation was realized after interviewing ten midwives, with ages ranging from 30 to 48 years. Their experience of working with HIV positive pregnant women ranged from 6 to 17 years. All midwives were trained with the following: PMTCT, HIV and TB management. Nine out of ten participants were females and one was a male. Table 1 illustrate participants' demographic information.

Table 1: Socio-demographic characteristics of the participants

Participant	Age	Gender	Academic qualifications	Short course	Experience in years
P1	37	Female	Registered midwife	PMTCT; TB;HIV	10
P2	35	Female	Registered midwife	PMTCT; TB;HIV	06
P3	43	Male	Registered accoucher	PMTCT; TB;HIV	12
P4	45	Female	Registered midwife	PMTCT; TB;HIV	09
P5	35	Female	Registered midwife	PMTCT; TB;HIV	10
P6	33	Female	Registered midwife	PMTCT; TB;HIV	07
P7	34	Female	Registered midwife	PMTCT; TB;HIV	07
P8	48	Female	Registered midwife	PMTCT; TB;HIV	17
P9	40	Female	Registered midwife	PMTCT; TB;HIV	11
P10	30	Female	Registered midwife	PMTCT, TB, HIV	06

This study yielded two themes, namely challenges to TB screening and Measures that can enhance TB screening. Themes, categories, and participants' testimonials can be seen in Table 2.

The midwives revealed several challenges regarding TB screening amongst HIV positive pregnant women. The concern was supported by four categories namely: Shortage of midwives and work overload; Inadequate knowledge amongst some midwives regarding TB screening; Midwives' attitude towards TB screening; Late presentation of pregnant women at the facility. These challenges are briefly described.

The first challenge was identified as shortage of midwives. It is apparent that shortage of midwives leads to increased workload which hinders provision of quality care to pregnant women. Consequently, midwives will have no option but to rush all activities as much as possible and omit important activities such as history taking which forms an important aspect of TB screening. In this kind of situation, the midwives would be overwhelmed to thoroughly follow all the guidelines including TB screening amongst HIV positive pregnant women.

During the interviews it was evident that some midwives were not empowered with regard to TB screening and management of HIV positive pregnant women. The participants blamed lack of development opportunities

such as workshops and trainings. Notably, lack of knowledge regarding the guidelines amounts to incompetence in TB screening amongst HIV positive pregnant women.

The attitude of midwives surfaced as the third challenge that hinders screening of TB among pregnant women who are also HIV positive. Participants revealed that some midwives classified TB as a procedure for lower category nurses. It is apparent that midwives with negative attitude, end up not screening TB amongst HIV positive just because they do not like it.

Early antenatal clinic attendance ensures a healthy pregnancy because it provides the pregnant woman with an opportunity for prompt screening, health education, treatment of minor disorders and referral for further management. However, it was revealed in this study that HIV positive pregnant women missed opportunities of being screened for TB due to non –clinic attendance. In this instance pregnant women would report to the clinic in the second stage of labour or when they are already having dire TB complications.

From the study findings, participants suggested several measures, which can be employed to enhance TB screening during antenatal care: Capacity building for midwives; Reliable TB screening tools; Consistent health education and campaigns.

Capacity building for midwives is important in equipping them with knowledge and skills especially with regard to guidelines and procedures. Furthermore, workshops can assist to empower the midwives, enhance their confidence and competency in screening pregnant women. Participants' responses show how in-service education to all midwives can assist with TB screening of HIV positive pregnant women.

Well-functioning reliable tools and equipments are required in order to ensure quality screening for TB amongst HIV positive pregnant women. Participants alluded that screening tools should be made available so that it can be easier for the midwives to screen the women for TB.

Effectiveness of all health care programmes depend on health education and behavioral change. This can be achieved through increased awareness and robust social mobilization. It was suggested by the participants that campaigns should be conducted to educated members of the community communities about TB infection.

Table 2: Themes, categories, and participants' testimonials.

Themes	Categories	Participants' testimonials
1. Challenges regarding TB screening	Shortage of midwives and work overload	P2: "Sometimes we have like three nurses on duty, which is two professional nurses and one ENA (enrolled nursing assistant),... So, we just...we just don't even ask, we don't even have time to ask them about TB symptoms or anything. We are just...we are just short... there is just a shortage of staff. I can say that."
	Inadequate knowledge	P1: "Most of the professional nurses are not trained for TB management. So... they attend pregnant women not having experience in all the programs like TB management, prevention of mother to child transmission (PMTCT), so it might contribute to losing some of pregnant women".
	Midwives' attitude towards TB screening	P6: "Yes, another one is that most of our midwives don't want to collect the sputum, they say collecting the sputum is for juniors...so we miss women because, when they come to the midwife in the consulting room, the midwife has that attitude of collecting the sputum ..."
	Late presentation of pregnant women at the facility	P1: "Yes... another thing is those women that come to the clinic with head-on perineum., when you investigated you find that they are not booked for ANC, she just comes, and deliver. So, I think ...it also affects the TB screening even if one is HIV positive, they come here when they are wasted, with more complications and then there is nothing that is working for them."

Continued Table 2: Themes, categories, and participants' testimonials.

Themes	Categories	Participants' testimonials
2. Measures that can enhance TB screening	Capacity building for midwives	P10: "At PHC level we have many... many programs, like TB management they have to go for training for longer days. So... is important for department to train midwives in TB issues".
	Reliable TB screening tools	P7: "I think if we can have screening tools, making copies, and each pregnant woman, we give it to them, so that even if when they are at home, they will be able to screen themselves, If I am having the night sweats I must come to the clinic."
	Consistent health education and campaigns.	P5: "I think we should conduct more awareness through door to door campaigns and let the community know about importance of TB screening for pregnant women..., and also through health education".

DISCUSSIONS

This study aimed to explore and describe TB screening amongst HIV positive pregnant women from the viewpoint of the midwives. All in all, two main themes were revealed which include: (1) Challenges regarding TB screening; (2) Measures that can enhance TB screening. This study showed that challenges such as shortage of midwives; midwives' inadequate knowledge towards TB management; midwives' attitude towards TB screening and late presentation of pregnant women at the facility, hindered TB screening amongst HIV positive pregnant women. The study also revealed capacity building for midwives; reliable TB screening tools and health education and campaigns as measures which could enhance TB screening amongst HIV positive pregnant women.

The current study revealed dire shortage of midwives. In this kind of situation, the midwives would be overwhelmed to thoroughly follow all the guidelines including TB screening amongst HIV positive pregnant women. Few midwives resulted in inadequacies and omissions regarding history taking which forms an important aspect of TB screening. Dire shortage of midwives, resulted in delegation of midwifery duties to lower nursing categories, thus further lowering the standard of care and screening of TB amongst HIV positive pregnant women. Shortage of nurses and other human resources in the health care system seems to be a problem for most countries, including South Africa (Jiyane, 2021; Matlala and Lumadi, 2019). In support, WHO (2012) and Haskins, Phakathi, Grant and Horwood (2014) highlighted that, programme implementation is affected and restricted by an increased workload of health

workers. Midwives play an important role in delivery of quality care including early detection of TB amongst pregnant women. In that regard, insufficient number of midwives will not be able to provide expected standard care to pregnant women (Olakunde, Adeyinka, Olawepo, Pharr, Ozigbu, Wakdok, Oladele and Ezeanolue, 2019; Kieft, Der Bower and Francke, 2014). This is established by the study participants who highlighted that few midwives were not coping with workload as a result they sometimes prioritized the long queues and omitted TB screening in pregnant women. Furthermore, work overload has been related to pressure and stress which might contribute to impoliteness towards patients (Abdollahzadeh, Asghari and Vahidi, 2017). It was apparent from the present study that sufficient midwives are needed for the provision of TB screening in HIV positive pregnant women.

During the interviews, it was noted that some midwives lacked knowledge regarding screening of TB for HIV positive pregnant women. In this regard, the participants blamed lack of development opportunities such as workshops and trainings. The knowledge gap amount to skills inadequacy, which result in the midwives missing important aspects of screening. It is therefore crucial that midwives who provide antenatal care at primary health facilities be trained on TB infection in pregnancy. Consistently, De Schacht, Mutaquiha and Faria (2019) revealed that TB screening in pregnancy is still neglected due to midwives' lack knowledge. Christian, Smith and Hompashe (2018) emphasised that the midwives should be knowledgeable with regard to early diagnosis and prompt initiation of TB treatment amongst HIV positive pregnant

women. The quality of antenatal care depends on the knowledge the midwives possess regarding TB in pregnancy. Accordingly, knowledge that is possessed by the midwives has a notable impact on the quality of nursing care they provide (Sithole and Khunou, 2016; Oyira, Ella and Usochukwu, 2016). It is notable that, if midwives are empowered, they will be in good standing to adequately follow the guidelines and educate pregnant women regarding the importance of TB screening.

In addition, the findings of the present study highlighted that midwives displayed negative attitude pertaining to screening of TB in pregnant women who are positive for HIV. Participants lamented with concern that other midwives shunned away from screening of TB of pregnant women with the perception that it should be done by lower category nurses. This kind of attitude, could be related to lack of knowledge amongst other midwives. Similarly, the negative attitude among midwives were also found in other studies (Banakhar, 2018; Negussie and Oliksa, 2020). Furthermore, attitude and eagerness of midwives has bearing on performance and commitment towards ensuring quality patient care (Banakhar, 2018). In contrast, Deressa and Zeru (2019) identified high motivation and attitude among midwives in their workplace. It is imperative that midwives should display a positive attitude towards their patient. According to Mannava, Durrant, and Fisher (2015), midwives who have a positive attitude are likely to attract patients to return to the health facility. Patients need empathy, understanding, support and acknowledgment from health care providers.

The findings from this study further revealed that pregnant woman reported very late at health facilities, despite the fact that they should present at the antenatal clinic before 20 weeks of gestation, (South Africa, 2016). Late presentation resulted in the midwives omitting TB screening. Literature has identified numerous factors which contribute to late presentation for antenatal care (Christian et al, 2018; Mannava, Durrant and Fisher et al, 2015). Christian, et al (2018), Sithole and Khunou (2016) cited the use of traditional healers by pregnant women instead of seeking maternity care services. The HIV status has also influenced pregnant women to report late at antenatal clinic. In this instance, stigma associated with HIV infection may be the reason for pregnant women to present late for antenatal care. According to Dramowski, Wates,

Schaaf, Zenhäusern, and Bekker (2019) women present late at public health facilities due to lack of knowledge and poor and socioeconomic status. Sithole and Khunou (2016), also cited health facility related barriers as some of the factors that contributed towards late presentation to facilities by pregnant women. Notably, lack of trust in health facilities by pregnant women prevent them from seeking health care services. Therefore, robust measures such as education need to be put in place so that pregnant women understand the importance of early antenatal clinic attendance.

Provision for in-service training and workshops regarding TB screening in pregnancy were also highlighted by participants. According to Mallick, Winter and Wang (2016), TB training in pregnancy is mostly disregarded among midwives. In that regard Chaghari, Saffari, Ebadi and Ameryoun (2017) emphasised that the midwives' professional capability and expertise need to be capacitated through tutelage. Keeping the midwives updated through workshops, would assist to keep them informed with regard to new developments pertaining to TB screening of HIV positive pregnant women. Lastly health education is highlighted by participants as a corner stone to healthy pregnancy. The findings of this study revealed that campaigns and health education can be used to empower the community about significance of TB screening during ante-natal care.

The study findings further revealed that early detection and diagnosis of TB in HIV positive pregnant women, can be enhanced through accurate TB screening tools. According to Vinkeles Melchers, van Elsland, Lange (2013), limited equipment and inadequate therapeutic information systems lead to inaccurate diagnostic algorithms and deficiency of TB control programmes. It is therefore, crucial from the study findings that midwives should always be provided with accurate TB screening tool to avoid missing screening TB to HIV positive pregnant women.

Lastly health education is highlighted by participants as a corner stone to healthy pregnancy. The findings of this study revealed that campaigns and health education can be used to empower the community about significance of TB screening during ante-natal care. Evidently, health education helps to increase the level of awareness and empower the women to be more accountable (Vinkeles Melchers et al ,2013). Furthermore, health education program should address specific cultural stigma (Burrowes, Holcombe, Jara, Carter

and Smith, 2017) health education is critical in educating the community at large and when it comes to the importance of screening of TB in pregnancy. The study was limited one district of Limpopo Province, South Africa. Therefore, the results cannot be generalised to other provinces.

CONCLUSION

The study concludes that midwives face numerous challenges as expressed and voiced, which impact negatively on screening of TB among pregnant who are HIV positive women in Limpopo Province.

SUGGESTIONS

Therefore, it is recommended that midwives should be developed regarding TB issues in pregnancy, audit maternal health records regularly to identify gaps and lastly off duties to cover busy days. Furthermore, more midwives need to be trained to curb the issue of shortage. There should be filling of vacant posts in order to ensure adequate number of midwives who will render quality midwifery care and proper TB screening of pregnant women. Given that the study was confined to one local area of Limpopo Province the study can be extended other provinces of South Africa to get a broader understanding of the phenomenon.

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CONFLICT OF INTEREST

Authors declare that no conflicts of interest in this research.

AUTHOR CONTRIBUTION

VMC was responsible for conceptualisation of the study, data collection and analysis and writing

the manuscript. SHK was responsible for supervising the study, writing and revising the manuscript.

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