


Barriers in Implementing the PMTCT in Moretele Sub-District, South Africa: An Exploratory Study

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Health Services Insights
Volume 15: 1–10
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DOI: 10.1177/11786329221083439



ABSTRACT: The Prevention-of-Mother-To-Child Transmission (PMTCT) program was introduced to prevent vertical transmission of HIV from a mother to her infant through pregnancy, labor, and breastfeeding. Therefore, it is critical for the program to be accessible in primary health care facilities across the globe to increase treatment uptake and to eliminate child and maternal mortality rates caused by HIV infections. However, barriers are still being experienced by some nurses while implementing PMTCT around Moretele sub-district in the North West Province (NWP). Hence, this qualitative study explored and described the factors influencing the implementation of PMTCT. A qualitative, exploratory-descriptive design was followed. Ten participants were selected purposively, and each participant was interviewed individually using WhatsApp video calling. All participants were made aware of their voices being recorded; data saturation was reached on the eighth participant as no new information evolved. Data were analyzed using Tesch's method of qualitative data analysis. The findings revealed that factors that influenced PMTCT implementation were due to patient, management, and staff-related factors. Moreover, these factors impacted the provision of effective patient care. The findings of this study show that much still needs to be done to achieve and sustain the PMTCT implementation goal. Therefore, the training of nurses should be of paramount importance. They should be provided and equipped with the necessary resources, support, and encouragement to offer and ensure quality health care. Furthermore, the government should ensure that policies and guidelines are regularly monitored and evaluated.

KEYWORDS: Factors, implementation, Moretele District, PMTCT, Primary Health Care

RECEIVED: August 13, 2021. **ACCEPTED:** February 4, 2022.

TYPE: Original Research

FUNDING: The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors relay their sincerest gratitude to North-West University Postgraduate Bursary and Thuthuka NRF grant (TTK160601167061) for funding the study.

DECLARATION OF CONFLICTING INTERESTS: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Introduction

Prevention of Mother-To-Child transmission (PMTCT) has been implemented for decades. The World Health Organization (WHO)¹ has been working together with various partners to set global HIV prevention and care standards. Furthermore, to provide treatment for all pregnant women at antenatal care (ANC), during labor, and at postnatal care (PNC) regardless of CD4 count and Viral Load (VL).² In doing so, they have developed evidence-based strategies that define global targets and indicators that promote the integration of the PMTCT program into maternal and child health services, thus also strengthening the health systems.¹⁻⁴ These measures were also for all non-HIV-positive pregnant women.

Additionally, the Millennium Development Goals (MDGs) were established in 2000 to reduce the child mortality rate and to combat HIV and AIDS globally by 2015.⁵ This is also promoted through the Sustainable Development Goals (SDGs), building on the MDGs to reduce the global maternal mortality ratio to less than 70 per 100 000 live births, end the preventable deaths of newborns and children under 5 years of age and end the HIV and AIDS epidemic.^{5,6} The SDGs have intensified the importance of PMTCT in delivering better health for mothers and their children is implemented to tackle the HIV pandemic.⁵

Correspondingly, the Joint United Nations Programme on HIV and AIDS (UNAIDS) introduced the 90-90-90 strategy in 2013 to reduce HIV infections among all people living with HIV (PLWH).⁶ This strategy aims that by 2020, 90% of all people would be diagnosed and know their HIV status, and 90% of those diagnosed would be on ART (Antiretroviral Treatment). Lastly, 90% of those who receive ART would be virally suppressed.⁷ To attain the 90-90-90 strategy, PMTCT can play a pivotal role and be a driving force as almost all women may be tested for HIV; those positive may be started on ART and retained in care. However, to attain the latter, challenges such as stigma and discrimination, traditional beliefs, minimal male involvement, and cultural practices need to be attended to aid timeous ANC booking and proper implementation of PMTCT.

Application of these strategies and acceleration of ART rollout are of paramount importance. Pregnant women were of priority for the 2015 Global Plan to successfully eliminate HIV infections among them and their children and keep them alive.^{8,9} This was evident as, since 2009, there was just a 21% decline in new HIV infections among children, which drew many countries closer than ever to eliminating mother-to-child transmission (EMTCT) as it remains a public health concern despite the progress made.^{4,6,9} Although the latter was



eminent, some challenges were also marked regarding the implementation of PMTCT.

The risk of perinatal HIV transmission is much higher if the mother's ART adherence is interrupted during pregnancy, labor, and breastfeeding.⁸ Additionally, the interventions of carrying out long-life ART to mothers at ANC, labor, and post-delivery are crucial.^{1,5} All children born to exposed mothers should be issued a short course of ART drugs as an intervention till breastfeeding is discontinued and the child is tested PCR negative.⁹

Given the above, the rapid implementation of evidenced-based interventions becomes a fundamental aspect of driving out the shifts of new infection and mortality.⁹⁻¹¹ The evidence-based interventions will lead to the ongoing success of creating a free HIV generation and accelerating the progress of HIV scale-up. Consequently, only a few individuals under the age of 25 know their HIV status and are on treatment or virally suppressed.¹² Therefore, if these evidence-based interventions are practiced and are combined with an effort to double the population in the ages of 15 to 24 years in Sub-Saharan Africa (SSA) knowing their HIV status, on treatment or virally suppressed, the eradication of the HIV pandemic could be expanded.^{10,13}

However, there are still challenges in providing and implementing PMTCT among midwives/nurses, which include inadequate knowledge regarding PMTCT and poor provision of health education, to name a few. In Malawi, Mulenga and Naidoo revealed that nurses had average knowledge of PMTCT, which led to ineffective PMTCT implementation and insufficient provision in that area.¹⁴ Another study outlined reasons for these nurses' poor adherence to the recommended practices: lack of confidence in giving clients health education and fear of contamination due to lack of resources such as protective equipment and lack of support from their colleagues.¹⁵ Because of the latter, PMTCT implementation is therefore affected and is necessary to scale up.

Notably, Botswana, Kenya, Malawi, and Uganda became the first 4 African countries to rapidly assess infant feeding policy programs to scale up the PMTCT program. Only 48% of the participants accessing health care were observed to have been given proper counseling on infant feeding options, and only in about 5% of them where this was discussed in full detail.^{13,16} Despite all the statistical improvement reported on PMTCT implementation progress, gaps are still noticeable in some parts of South Africa (SA). The noticed gaps reveal that some nurses are still experiencing challenges in implementing PMTCT, leading to inadequate implementation of PMTCT to pregnant women accessing health care.^{1,3,4,13,16}

The researcher observed that babies are tested for HIV at postnatal. Despite the education and training provided and the availability of guidelines, most pregnant women are still not tested during ANC within the Moretele sub-district. Other follow-ups/monitoring tests are not done, resulting in inappropriate ANC and incomplete implementation of PMTCT. The

latter leads to a delay in providing prophylaxes and predisposes babies to vertical transmission of HIV. Besides, the researchers observed gaps among some nurses providing PMTCT, resulting in children testing HIV positive due to their mothers not being monitored adequately during Basic Antenatal Care (BANC) and Postnatal Care (PNC). In addition, the NDoH has ensured that professional nurses are adequately trained with access to guidelines in providing adequate care for patients. However, there is limited information regarding studies that have been done in the NWP Moretele sub-district about factors influencing PMTCT. Having identified the gap, the researchers sought to explore and describe the factors influencing PMTCT implementation in Moretele Sub-District in NWP.

Material and Methods

Research design

A qualitative, exploratory-descriptive research design was used. This design was chosen to understand and investigate the in-depth concern regarding factors influencing PMTCT from the nurses' perspective.¹⁷

Study setting

The context of this study is the Moretele sub-district in North West Province (NWP), South Africa (SA). Moretele sub-district has 2 Community Health Centers (CHC) operating 24 hours with 6 others but not CHCs and 13 Primary Health Care (PHC) facilities operating 5 days a week and 3 operating 7 days a week. These facilities are all based in rural areas. Moretele sub-district consists of 116 professional nurses of different professional qualifications, enabling them to provide good quality health care services for the community.^{18,19}

Population and sampling

The study population included all midwives, both males, and females who were knowledgeable about the factors influencing PMTCT in the Moretele sub-district of NWP. These midwives were willing to participate in the study as they signed an informed consent coordinated by a mediator. A non-probability, purposive sampling technique was used to select midwives who met the inclusion criteria. The mediator chose these participants based on the set inclusion criteria. The mediator followed a non-probability purposive sampling technique to determine the midwives responsible for PMTCT in the Moretele sub-district of NWP.

Furthermore, these midwives were purposively selected as they were knowledgeable about the PMTCT program, particularly its implementation in the Moretele sub-district of NWP. The mediator selected the participants based on the following selection criteria. Thus, the participant should be a: professional midwife registered with the South African Nursing Council (SANC), working in the CHC facility, knowledgeable about PMTCT and the implementation thereof, and willing to

consent for participation in the study. And the midwives would have access to WhatsApp video calling.

Data collection

Appointments were made telephonically with the research participants who were selected before data were collected to outline the purpose of the research. Semi-structured individual interviews were conducted in English using WhatsApp video calling, and participants were not subject to respond in 1 language. They were allowed to respond in a language of choice which enabled them to express their views succinctly. The interviews lasted from 30 to 60 minutes, and the participants were made aware of an audiotape being used during the interview and taking field notes. The researchers sought consent from the participants as an agreement to participate in the research. The researchers used probing questions as guidance for clarity during the interviews.^{20,21}

- What are the factors influencing PMTCT in the Moretele sub-district of NWP, SA?
- What recommendations could minimize the factors influencing PMTCT in the Moretele sub-district of NWP, SA?

Data analysis

Data were analyzed using Tesch's method of qualitative data analysis. Organizing, preparing, and interpreting data for analysis was done by listening to the audiotape, transcribing interviews, translating interviews in native languages, typing field notes, and arranging data into different themes to give the research meaning and understand the topic.¹⁷ After that, the results were compared with the recorded and transcribed data through the help of a co-coder for data verification and reliability.²⁰

Measures to ensure trustworthiness

The 4 elements of trustworthiness in qualitative research are credibility, dependability, confirmability, and transferability.²⁰ Increasing the study's credibility was achieved by spending more time with participants in individual interviews for about 30 to 60 minutes until saturation was reached. Afterwards, we transcribed the recordings and shared interpretations with the participants to ensure they had been adequately and accurately captured. By maintaining an audit trail, which includes copies of notes, transcripts, and recorded data for future reference, participants were provided with researchers' personal information for contact or explanation at any time. In order to enhance the validity of the PMTCT interview guide and interviewing skills, a pilot study was conducted with 3 nurses from another part of the NW province that were trained in PMTCT. This study does not present the results of the pilot. In an effort to

refine study methods, we conducted a pilot study in another district with PMTCT nurses. In order to reach a consensus on the study methods and phrasing of the research question, 3 consecutive discussions were held with an independent co-coder. In order to enhance transferability, non-probability purposive sampling methods were used to collect data from PNs trained on PMTCT.

Ethical considerations

Ethical approval was obtained from the North-West University Research Ethics Committee. Access to participants was granted through the North West Department of Health and the clinic sub-district Manager. The participants were assured that their identities would not be compromised as all recordings were kept in a locked safe, where only the researcher and supervisor, as well as the co-coder, had access to data verifications.²¹

Results

Ten nurses working from the Moretele sub-district Primary Health Care (PHC) facilities participated in the study. These participants are allocated to different programs daily to provide good quality health care because of their different experiences and qualifications to ensure that proper implementation of PMTCT is achieved. Table 1 presents the participants' demographic data, where 2 themes, 4 sub-themes, and categories emerged from the results in Table 2. The nurses outlined the factors influencing PMTCT through semi-structured individual interviews, resulting in 2 themes and 4 sub-themes. These findings are supported by direct quotations from the participants, including field notes taken during data collection. Table 2 outlines the themes, sub-themes as well as categories thereof.

Theme 1: Barriers in implementing PMTCT

The rationale for unsuccessful PMTCT was the first theme identified in this study. Sub-themes included patient and staff-related factors. These themes, sub-themes, and categories are given in the following sections.

Sub-theme 1: Patient-related factors

According to some participating nurses, some patients are not willing to disclose their HIV status. This shows that some patients are not open about HIV and resulting in them not adhering to treatment due to fear of being judged by other people. The nurses also outlined that some patients still think HIV is a taboo issue and choose not to talk about it even though it's a topic known around the globe.

Fear of stigmatization. Stigma was revealed as an issue promoting denial. This was indicated by nurses stating that HIV is still

Table 1. Demographical data.

| INTERVIEWEE | AGE (Y) | GENDER | QUALIFICATIONS: KNOWLEDGE OF PMTCT | YEARS OF WORK EXPERIENCE, INCLUDING COMMUNITY SERVICE | HOME LANGUAGE | RESPONDING LANGUAGE OF AN INTERVIEW WITH THE PARTICIPANT |
|---------------|---------|--------|--|---|------------------|--|
| Participant A | 25 | Female | BCur, NIMART trained, PMTCT knowledge | 3 | Venda | English and Tswana |
| Participant B | 35 | Male | Diploma in nursing, TB trained, NIMART trained, PMTCT knowledge | 6 | Setswana | English and Tswana |
| Participant C | 29 | Male | Diploma in nursing, TB trained, NIMART trained, PMTCT knowledge | 4 | Zulu | English and Tswana |
| Participant D | 39 | Female | Diploma in nursing, NIMART trained, PHC trained, PMTCT knowledge | 15 | Setswana | English and Tswana |
| Participant E | 25 | Female | BNSC, Not NIMART trained, PMTCT knowledge | 2 | Xhosa | English and Tswana |
| Participant F | 30 | Male | BNSC, NIMART trained, PMTCT knowledge | 3 | Setswana | English and Tswana |
| Participant G | 29 | Male | BCur, NIMART trained, PMTCT knowledge | 4 | Tsonga | English and Tswana |
| Participant H | 28 | Female | BNSC, NIMART trained, PMTCT Knowledge | 6 | Setswana | English and Tswana |
| Participant I | 25 | Female | BNSC, NIMART trained, PMTCT Knowledge | 2 | Setswana | English and Tswana |
| Participant J | 33 | Female | BNSC, NIMART trained, PMTCT Knowledge | 6 | Setswana | English and Tswana |

Table 2. Factors influencing prevention of mother-to-child transmission.

| MAIN THEMES | SUB-THEMES | CATEGORIES |
|--------------------------------------|----------------------------|---|
| The rationale for unsuccessful PMTCT | Patient-related factors | <ul style="list-style-type: none"> - Fear of Stigmatization - Cultural reasons and treatment non-compliance - Lack of knowledge of HIV status - Home deliveries - Relocation to other provinces |
| | Staff-related factors | <ul style="list-style-type: none"> - Shortage of staff - Nurses' negative attitudes - Insufficient knowledge among pregnant women - Lack of training among nurses/midwives - Camouflaged reports |
| Suggestions for effective PMTCT | Staff-related factors | <ul style="list-style-type: none"> - Orientation and training of community service nurses - Introduction of refresher courses - Nurses to change the attitude - Sharing information with nurses/midwives |
| | Management-related factors | <ul style="list-style-type: none"> - Increased nursing workforce - Adequate resources - Unexpected support visits by senior managers - Continuous monitoring of evaluation of PMTCT policy |

a taboo issue and that some people think it is a death sentence as it is believed in society, leading patients not to accept and disclose their status. One of the participants remarked:

“The stigma from our communities causes patients to be ignorant, and some are in denial which leads them not to disclose to their partners with

the fear of being stigmatized and being beaten by their partners” (D-39 years)

Cultural reasons and treatment non-compliance. Cultural and religious beliefs make PLWH go to different churches and traditional healers for consultation and treatment. They end up

not taking their treatment resulting in deterioration of health status and disease progression. This was confirmed by the participant who said:

"... some they just default due to their cultural beliefs, ... some they will tell you that they are using some traditional medication." (A-24 years)

Another participant further noted:

"... you teach the patient that they must take the treatment at 8 o'clock every time, not use traditional herbs, those things you explain to the patient, but when she gets out of [leaves] the clinic, she goes to the traditional healer" (B-35)

Lack of knowledge of HIV. The participating midwives complained about the fact that there are still those patients lacking knowledge about HIV statuses. This is very worrying to the nurses because even if there are still so many resources that explain what HIV is, it is still a problem as people do not read, and some are illiterate. This was evident from the participant who acknowledged:

"... Yes, I would say lack of knowledge, first of all, because especially where we are working it is a rural area most of the people they don't have the knowledge [sic]. ..." (B-35 years)

Home deliveries. One of the participating midwives expressed a challenge of people not booking for antenatal care (ANC) in time and consequently delivering babies at home. One participant complained:

"... others they can deliver [give birth] at home they do not come to the clinic, they come with BBAs [babies born before arrival] ..." (B-35 years)

The participant also added:

"... for an example, she was an unbooked case and did not know her status, but when she comes to the clinic we can also manage [her]. ..." (sic) (B-35 years)

Relocation to other provinces. Relocation almost every day to different locations for different reasons is a problem in terms of referral systems. The midwives expressed that this [meaning no proper linkage of a patient to care] and the dishonesty of patients because some patients will be referred without or with an incomplete referral letter, compromise the management of accurate patient records: one participant emotionally uttered:

"... you find a pregnant woman [who is] HIV positive, start the ARV [initiated on ARV], in Limpopo [province], when the client comes to North West [province], then you have to finish up [carry on], sometimes you find [that] at Limpopo they did not manage properly. ..." (sic) (C-28 year)

Sub-theme 2: Staff-related factors

Staff-related factors were identified as the second sub-theme for the rationale of unsuccessful PMTCT. Some of the nurses are not keen on working with pregnant women. This factor results in many nurses having a negative attitude toward the program and thus impacting its effective implementation.

Shortage of staff. Midwives expressed the shortage of staff, which led to some of the things are not being done correctly. Midwives felt that they required an adequate number of midwives in their facilities for the effectiveness of all programs being provided in the clinical facilities. Programs need to be implemented correctly by providing holistic care to all patients, but this was impossible due to the shortage. One participant highlighted this:

"... you may find that you are alone and there is a lot of pregnant women outside there, and you are about to close, you have to see them like as quick as you can so that you can finish them because you can't return them home because you can't return pregnant women. ..." (A-24 years)

And another participant added:

"... if there is staff shortage then it means patients are not going to be treated properly, they will just make it fast so that they can finish [the queue] ..." (F-30 years)

Nurses' negative attitudes. The midwives outlined that most of the patients not being adequately managed are due to their negative attitudes toward the patients and the program itself, leading to some staff being ignorant, which negatively impacts patients regardless of the guidelines in place. The challenge is that if one is not keen on a program they will not carry it out to its full implementation.

One of the participants pointed out:

"... yes we do have guidelines, but there are ignorant colleagues, ... the ignorance of people (being nurses), there are some people who don't want to read, yes I am saying that." [Emotional]. (B-35 years)

One more participant revealed:

"... The nurses' negative attitude will always be there; nurses' attitudes are also a serious problem. ..." (G-29 years)

The participant further supported this by saying:

"... Sometimes you [are] place[d] in ANC for the whole month and you have no interest in PMTCT" (C-28 years)

Insufficient knowledge among pregnant women. Midwives highlighted the insufficient knowledge among the pregnant women enrolled in the ANC or PMTCT program, which is one of the recipes for the unsuccessful implementation of

PMTCT in the Moretele sub-district in NWP. One of the midwives verbalized:

“ . . . There should be continuous health education, and it should start in the waiting area and then from there at the counseling room. . . .”
[for patients/pregnant women] (F:30years)

Lack of training on nurses/midwives. Participating midwives highlighted that there are nurses/midwives not trained in PMTCT and nurse-initiated management of ART (NIMART) in their facilities. Thus, there is a need for intensive PMTCT training amongst professional nurses/midwives and every person working in the healthcare center for effective PMTCT implementation. This includes on-spot training of newly qualified and junior nurses. A midwife verbalized:

“ . . . I mean our nurses/midwives [newly qualified midwives] are not being trained in the PMTCT program, or I can say NIMART also. . . .”
(H-29years)

One participant also added that:

“ . . . if there is proper training [in place] then PMTCT [implementation] can be effective. . . when senior nurses do spot teaching for junior nurses” (G-29years)

Camouflaged reports. Participants mentioned that, at times, the sub-district is submitting the camouflaged report to the provincial office. These participants noted that some of the monthly statistical reports are not their true reflection. When reported nationally, it is seen as if everything is going according to standards and targets are reached when it is not really happening.

There was a participant who stated:

“ . . . what this people usually do, they camouflage things so that when they send in reports, they send [it] as if everything is correct.” (sic)
(C-28years)

Another participant also noted:

“ . . . if the people from National [Department of Health] would come to the facility and compare that [as indicated in the above quotation] report together with what they see, then they would see that there are gaps and then those gaps can be corrected.” (C-28years)

Theme 2: Suggestions for effective PMTCT

Suggestions for effective PMTCT were identified as the second theme that emerged from the study results. Sub-themes include staff and management-related factors. Themes, sub-themes, and categories are addressed in the following sections.

Sub-theme 1: Staff-related factors

The following sub-themes are staff-related factors where some nurses outlined that they might be the cause of PMTCT

not being successfully implemented. Issues of having an attitude toward the PMTCT program, attitude to patients, and some nurses lacking knowledge about PMTCT and not being keen on heading the program should change ranked high among the challenges. This was supported by the factors outlined below.

Training of community service nurses. The training was mentioned as the best thing for them to carry out tasks that they face daily. It is essential for training to take place as it helps one to acquire more knowledge as well as building ones' confidence in providing the program with clear indications and guidance on what is expected. This will help the nurse in providing holistic care for the patient. This view was supported by a participant who added:

“ . . . I think training is the best thing that it can help us to work properly with this PMTCT guideline” (A-24years)

And another one mentioned:

“ . . . the new nurses [Community Service Nurses] that should be started with the [PMTCT] training or orientation before they come to interact with the patients.” [the facility that the nurse is going to should be responsible for training the nurse] (A-24years)

and further stated:

“ . . . We have health care workers [Ward based PHC outreach teams] who go into the communities, so if we health educate them about PMTCT then they can be able to give health education to clients in their households. . . .” (A-24years)

Introduction of refresher courses. Nurses strongly suggested introducing refresher courses that can remind them of the new things or recent information that has been changed and remind themselves of the things they have learned. A nurse highlighted this:

“I think that there should be a refresher [course for PMTCT], yes so that they keep on having new [updated] information since the guideline is changing every day.” (G-29years)

Another participant mentioned:

“Health education to the community about the disease and training on PMTCT [should be given to patients, which will enable them to know about PMTCT and help reduce transmission].” (F-30years)

They believe that if the message could be given to the community and not only in the clinical settings, more people would know as not everybody goes to the clinic to access health services.

Nurses to change the negative attitude. Midwives proposed a change in their attitudes either toward the patients or the PMTCT program. This progression will significantly benefit

both nurses' and patients' relationships and give better service delivery to the community.

One of the participants cited this as a concern:

"... we have to immediately stop the attitude because we are just here for the patient and it's our job. . ." (B-35 years)

He further added:

"who is going to treat the patient, if there is a staff attitude towards some patients? And that their attitude should change" (B-35 years)

Because with a negative attitude toward patients or nurses, the implementation of PMTCT won't be effective.

Sharing information with nurses/midwives. Midwives mentioned that there should be sharing of information among nurses/midwives when one has information or has been to a workshop. Then those with old information would be updated on new things that have evolved and need to be implemented. There are protocols and guidelines available to support the implementation.

Sharing of information within and among nurses/midwives was verbalized by one of the participants, who commented:

"... all those professional nurses that have been trained on PMTCT; they must make sure that they disseminate the information to the lower categories. . ." (F-30 years)

The junior nurses need support from the senior nurses to do the correct thing and carry out learned information and put it into practice.

Sub-theme 2: Management-related factors

The management-related factors that the midwives highlighted were being supported and encouraged, and these suggestions could ensure proper implementation of the PMTCT program. One of the things that managers need to do in the workplace is to keep their employees motivated to ensure productivity. This was evident from direct quotations from the nurses.

Increased nursing workforce. Most midwives felt that if more nurses could be employed, all the problems they are facing now could be solved. They think that they need more workforce to carry out all the daily programs that are run in the facility as they feel that the current staff is not enough. This will also alleviate staff burnouts that are manifesting through absenteeism.

This was supported by the participant who said:

"... if there is enough staff or more nurses are employed you don't consult patient under pressure. . ." (F-29 years)

Another participant also mentioned:

"if there is enough staff we can fight this PMTCT we can achieve it 100%" (A-24 years)

Another participant further whispered:

"... if we can have much staff; then, things are going to be much simple[r], because we are not [going to be] straining, and we are not [going to be] getting tried. Yes, and then the department to also supply nurses [equipment?] to avoid shortage" (C-29 years)

Adequate resources. The nurses feel that the availability of treatment and other resources needed to implement PMTCT properly is critical. One of the participants mentioned:

"... the drugs are needed so we must make sure that the drugs are available, at some point you order the drugs at the ground level but people at the top, they don't make sure those drugs are there, but then if those people from the top, they can come from top to down here. . ." (C-28 years)

Another participant also reported:

"... they[patients] get limited pamphlets, some even finishes them before others could get them. . ." (F-30 years)

This demonstrates that limited people get these educational aids, which reduce the transmission of new knowledge on what is happening regarding health matters.

Unexpected support visits by senior managers. One of the midwives verbalized and even suggested that senior management should do unannounced support visits to the health facilities to see that they are struggling and not coping. No one is worried about how they feel daily so long as they come to work, see patients, and go home. This will also ensure the proper implementation of PMTCT.

One participant articulated:

"... They should come down and just do the unannounced visit, and they can check if we are doing good on PMTCT." (C-28 years)

Because they are not coping in the health facilities, officers from the national government should see how the nurses at the facilities are struggling.

Continuous monitoring and evaluation of PMTCT policy. Nurses felt that the PMTCT policy should be continuously monitored and evaluated. When new information needs to be disseminated to the facilities, everybody providing the program can align with the latest information rather than implement outdated ideas.

Participants mentioned that they understood PMTCT by saying that:

"There must be continuous monitoring especially from those people that always run the workshops, always run the continuous monitoring of the"

program, just check if there is, if there can be any loopholes so that they can fix it" (F-30 years)

"...those policies should be revised at least, they should be revised in a sense that, at least maybe say for five year period the policies, all the policies especially that support the PMTCT, they should be revised to check if the program working, are there any gaps in the program, . . ." (B-35 years)

The above research findings, which gave a narrative description of 2 major themes, were outlined by nurses. These themes had 4 sub-themes and categories discussed in detail and were supported by direct quotations from the nurses/participants. The quotes were written in italics to illustrate that they were from the nurses. The following section focuses on a discussion of the research findings.

Discussion

The PMTCT program was created to prevent HIV infection from mother to child. In 2011, the Department of Health developed a national action framework for EMTCT HIV by providing the mother with ARVs as soon as she was HIV infected. By doing so, it was identified to be the most effective strategy in reducing vertical transmission.^{2,16} However, nurses are still faced with challenges mentioned in the above results, including staff, patients, and management factors. These factors lead to the unsuccessful implementation of the PMTCT program in that area.²²

Furthermore, cultural beliefs significantly influence the response of PLWH to be adherent to medication; among other issues are denial and being stigmatized. This study has established no difference as participants have reported that some patients' cultural beliefs are some of the causes that lead them not to be compliant with their treatment. Instead, they voluntarily opt for traditional medicine.^{16,22,23} This may be attributed to their upbringing, conventional, and customary nature of patients as they are reported to use traditional healers and herbalists as their first point of contact when it comes to their health. Shankar et al²³ supported the above statement by outlining other major health influences among different populations that can play an essential role in determining health-seeking behavior, including culture, social, and ethnic issues as barriers.^{23,24} This is still a significant issue as it delays treatment for the mothers. This study also revealed that people in rural areas still believe that they will die if HIV positive. This results in fear of enrolling in PMTCT programs and a reduction of HIV status disclosure as some avoid community stigmatization or abuse their partners to disclose where they got the disease.

Poor or insufficient pregnancy and PMTCT health education was revealed in this study as one of the issues impacting negatively on the implementation of PMTCT. This indicates that there are still noticeable gaps in giving more awareness to the young and old community members. This means more

health education regarding PMTCT should be re-enforced to conscientise people on what is happening in the world as HIV is still a health concern.^{2,12} The study also found that most pregnant women, young and old, prefer home deliveries which may also result from not being well equipped with necessary information on the importance of attending ANC in the health care facilities. In support of the preference of pregnant women toward home deliveries, Nuwagaba-Biribonwoha et al²⁵ revealed that most of the people in rural areas tend to have more home deliveries in a study done on healthcare workers' challenges. They further indicated the distance to the health care facilities and the socio-economic impact faced as factors that led to patients not accessing health services due to the socio-economic impact faced.²⁵ This shows PMTCT program implementation would be a challenge for midwives/nurses because they cannot help the women if they do not use the health facility. This becomes even more complicated if the patient does not know her status and delivers at home, putting the infant at more risk of being exposed to HIV.

Significant issues also arise when a lack of proper referral systems are not followed, which is more patent on people who relocate from one province to the other.²⁶ Midwives/Nurses find this problematic when patients tend to be dishonest and do not comply with their treatment. Furthermore, work overload in the health facilities promotes absenteeism leading to staff shortage and job-related stress for those nurses on duty. It also leaves them feeling emotionally exhausted by subjecting them to less personal accomplishment at the end of the day. They become demoralized as there is no support in carrying out the daily routine.^{15,27} This will result in patients complaining of long waiting periods as supported by a study done on barriers leading to the ineffectiveness of PMTCT interventions due to shortage of staff which remains a considerable challenge, as this can also bring negative attitude toward their jobs.²⁸

Midwives indicated that not all midwives and nurses are trained in PMTCT in their facilities, as shown by insufficient knowledge and training. Inadequate knowledge and lack of training negatively impact the effective implementation of PMTCT. Literature also provides for the observed inadequate knowledge in PMTCT and attitude toward practices among most health personnel.^{15,27} This can increase the workload on those knowledgeable and trained as they are capable and skilled to implement PMTCT successfully. The latter led them to work with frustration and anger due to over-working and lack of management support.^{15,27,29} Therefore, nurses need to be trained in the PMTCT and be motivated because, with good practice, a positive attitude and sufficient knowledge on the prevention of the vertical transmission of HIV can be achieved. This shows that encouraging and supporting nurses may boost their morale.³⁰

Based on the above, one of the South African Nursing Council's (SANC) objectives in clinical practice for student

nurses upon their completion of training is to ensure that they are provided with meaningful learning opportunities in all aspects of their clinical placements. This will aid them in providing and implementing good quality nursing care for their patients.³¹ Midwives raised a concern that when they should attend training, they start to think of staff shortages in the facility, which result in them being less skilled. Therefore, midwives and nurses are an important asset in the health system, and if their productivity and performance are compromised, the implementation will remain a challenge.³² It is evident that without nurses' knowledge, skills, and motivation, health facilities will not be able to perform effectively. This is why other multidisciplinary health team members and managers need to provide good working conditions that will help support and encourage nursing performance.^{28,32,33}

Essentially, training should be encouraged because a workplace that promotes less employee involvement, staffing, training, and discretion in teamwork is likely to affect the achievement and transfer of new knowledge within any organization.^{28,33} Clearly, good clinical practise should be influenced by a supportive and positive setting to integrate theory and practice. Hence, students get to practice their learned skills in the different health facilities and interact with patients, families, and other healthcare workers to promote efficient health care.³⁴

Conclusion

Nurses must be equipped with proper training and resources to provide quality health care because if appropriate training is not done, it will lead to patients being mismanaged. Moreover, it results in children being born with HIV because of a lack of knowledge and training toward implementing PMTCT. The most significant reason health professionals should be trained is to diagnose, prevent, cure, and manage patients efficiently. Therefore, more nurses need to be hired and trained to alleviate the over-burden of work on health workers in the health sector. If it is not addressed, there will be increased absenteeism and staff shortage.

Moreover, the government should find a way to improve the working conditions of nurses. They should ensure that policies and guidelines are regularly revised and monitored. Besides, midwives/nurses face daily challenges such as increased workload related to other conditions like chronic patients that cause some indicators not to be met or implemented correctly. Midwives and nurses need to be supported in all aspects of their training to minimize demoralization.

Acknowledgements

The authors acknowledge the midwives for participating in this study.

Author Contributions

NRN and LM conceptualized and designed the study. NRN collected and analyzed data, and LAS co-coded the data. NRN,

LM, and LAS were responsible for the overall manuscript preparation. NRN had the most contribution, and LM and LAS had equal contributions. All authors have read, edited, and approved the final manuscript.

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