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Managerial factors influencing the implementation of NIMART services in the mobile health clinics of eThekwini municipality in KwaZulu-Natal

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ABSTRACT

Background: The mobile health clinics (MHCs) have been instrumental in rolling out Human Immunodeficiency Virus (HIV) care since they are an extension of Primary Health Care (PHC) services. The integration of HIV care into PHC services is reported as a structural facilitative factor for implementing nurse-initiated antiretroviral therapy (NIMART). The success of any health program relies heavily on management and support structure, hence managers' perspectives on the implementation of NIMART services in MHCs are deemed crucial.
Aim: The study aimed to explore and describe the managerial factors influencing the implementation of NIMART services in the MHCs of eThekwini municipality in KwaZulu Natal.
Methods: A generic qualitative research approach was used applying Qualitative Exploratory Descriptive (QED) design, on twelve MHC managers who were purposefully selected and managing MHCs operated by local and provincial health authorities. The study was approved by the North-West University Human Research Ethics Committee (NWU 00934–19-A1), provincial (KZ_202002_017) and local health (30/1/1/6/3/1) authorities. Online semi-structured interviews were conducted to collect data and were transcribed. Atlas-TI was used for data analysis while demographic data was descriptively analysed.
Results: Three themes and twelve subthemes emerged from the study: theme 1: Challenges in implementing NIMART services in MHCs, theme 2: Positive factors influencing implementation of NIMART services in MHCs, and theme 3: Suggestions to strengthen implementation of NIMART services. Subthemes were shortage of staff, shortage of medical equipment for NIMART services, challenges with infrastructure, lack of budget for NIMART services, nurses are trained in NIMART, continuous meetings, Proper planning, more nurses should be trained on NIMART, employment of more nursing personnel, collaboration with relevant stakeholders, proper infrastructure for NIMART and need for allowances.
Conclusion: The involvement of managers is key to the successful implementation of NIMART services in the MHCs and improvement is more desirable.

1. Introduction

Nurse-initiated management of antiretroviral therapy (NIMART) training was introduced in response to the World Health Organisation's (WHO) recommendations of task shifting to challenge the dearth of skilled healthcare workers. Nurses were capacitated to competently initiate antiretroviral therapy (ART) for people living with HIV (PLWH), which was traditionally the task of medical doctors to prescribe ART. This was done in response to the global need to increase universal access to comprehensive HIV programs relating to the prevention, treatment, quality care, and support services (WHO, 2008). In the context of South Africa, it was also a response to the public health crisis (Ford et al., 2018), to allow the healthcare system to cope as a result of alarming high HIV infection rates. Since the introduction of NIMART, an overall uptake increase of ART has been reported in the country (NDoH, 2011, Crowley et al., 2021), more especially at the community level (Crowley et al., 2021) as nurses responsible for NIMART implementation render the service at a community primary health care (PHC) clinics. Multiple benefits due to NIMART were observed which included the integration of human immunodeficiency virus (HIV) care and support services into

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various existing services, such as tuberculosis management (Makhado et al., 2018), antenatal care (Mnyani et al., 2014), and general PHC (Mathibe et al., 2015). That meant that HIV support and care services were part of the comprehensive package as opposed to being a separate vertical program. Thereby providing more access and availability of HIV services in the first level of care for local communities.

Decentralization of NIMART services has strengthened patient retention on ART while reducing the burden on referral hospitals for non-complicated cases (Nyasulu et al., 2013). Furthermore, multiple benefits such as altruism, closeness to home, and savings of transport costs and time (Mukora et al., 2011) have been documented as a result of decentralized HIV care services. Unfortunately, not all communities can reach decentralized sites, hence Mobile Health clinics (MHCs) play a role in furthering the delivery of essential health service packages to underserved communities (Stephanie et al., 2017, Ngcobo et al., 2022). Using vehicles equipped with essential medical supplies, trained nursing staff, and other categories. MHCs can be commended for abolishing the distance barrier to accessing HIV care even further, compared to fixed community clinics. Ensuring that integrated healthcare programs are found right at people's doorsteps. Ultimately leading to improved overall population health outcomes while addressing health priority needs such as HIV care. Therefore, MHCs form part of a decentralised model of health service delivery which also offers NIMART services in the Ekwinini district.

Nurses' self-sufficiently run NIMART program in the MHCs and the program as a whole has led to many people living with HIV (PLWH) gaining access to health care. South Africa has since been reported as having the biggest ART program in the world (Burger et al., 2022) through NIMART. Therefore, the bloodline service of the country when it comes to HIV care needs to be managed effectively, more especially in the MHC settings. As the environment of the MHCs is different from the fixed PHC clinics. Managers of MHCs have to ensure the smooth running of the NIMART program takes place, through the application of four core management functions (Daft, 2015). Because NIMART implementation in the MHCs acts as a vital structural facilitating factor (Mophosho, 2015) since it directly responds to valid HIV care needs of the local people. With a hope that similar NIMART program indicators such as those in PHC clinic settings could also be achieved in the MHCs. Since NIMART is thriving and has proven to be cost-effective, providing the same and superior quality to doctor-managed ART, and improving HIV care access (Sanne et al., 2010, Nyasulu et al., 2013, Crowley et al., 2021). At present no documented NIMART program outcomes exist derived from the MHCs. Therefore this unique situation requires that managers' chief role of setting up systems and creating enabling conditions for subordinates (Daft, 2015) be maximized. Because innovative, flexible management styles and strategies usually lead to the success of any program. Therefore, the managers' perspectives on the NIMART implementation in the MHCs are critical since it has not been reported, instead, managers' and nurses' perceptions on NIMART implementation are cited from the fixed clinics settings (Mboweni and Makhado, 2020, Davies et al., 2013). Because of the limited available evidence on NIMART implementation in MHC contexts, the study aimed to explore and describe the managerial factors influencing the implementation of the NIMART in the MHCs of eThekwini municipality district, which has the highest HIV cases within the province of KwaZulu Natal (KZN) (Rajagopaul and Naidoo, 2021, George et al., 2020). Therefore, this paper describes MHCs' demographic profile and their perspectives on managing MHCs implementing NIMART.

2. Research Design and Methods

2.1. Study design

A generic qualitative study approach was conducted, following a qualitative exploratory descriptive (QED) design to explore and describe managerial factors influencing the implementation of NIMART services in the MHCs of eThekwini Municipality in KZN. QED research design assisted the researchers in gaining insights into the real-world context as experienced by MHC managers, while they were accounting for what was and was not working regarding NIMART implementation in the MHCs (Pelzang and Hutchinson, 2018). Furthermore, a detailed account of the phenomenon of concern and meaningful characteristics related to real-life actions were captured by the researchers in the process (Pelzang and Hutchinson, 2018). The authors felt that the QED method was best suited for the study since nothing is known about NIMART implementation in the MHCs settings (Pelzang and Hutchinson, 2018). Therefore pragmatic research paradigm was also adopted for the study since it is in line with QED design because of its pragmatic approach and its ability to answer concrete and practical 'what' kinds of questions (Pelzang and Hutchinson, 2018), about NIMART implementation precisely in this study.

2.2. Study setting

eThekwini district is known as the epicenter of HIV within KZN province (George et al., 2020) and offers healthcare services through a district health system (DHS) approach (Mahadeo et al., 2022) to its urban, *peri*-urban, and rural communities jointly with the Provincial Department of Health and the Local Government authority, with the former contributing 60 % and the latter 40 % (Massyn et al., 2016, KZNHealth, 2021, eThekwiniMunicipality, 2021). MHC managers included in the study belonged to both health entities. MHCs form part of the DHS either through district hospitals, community health centers (CHCs), or PHC clinics. A total of 36 MHC teams are available within the district. Each MHC team has multiple mobile points (locations) that they visit per month to offer health services. Each mobile point functions as a standalone MHC and has different attributes from one another. Major challenges faced by the municipality include poverty, lack of employment, and gross disparities (Pillay and Mutereko, 2022) which pose a direct threat to the overall health of the city's population. About 3,199,000 people were residing in the municipality in mid-year of 2022, (StatsSA, 2022).

2.3. Population, sample size, technique, and procedure

A total of (*n*-12) MHC managers were purposefully selected for the study following a non-probability purposive sampling technique (Bryman, 2016). All managers were responsible for MHCs that were offering HIV care, located in various subdistricts of the municipality, and had between one to 15 years experience managing MHCs. Homogenous participants gauge a clearer understanding of the overall perceptions among the participants' experiences with the phenomenon under study (Creswell, 2013, Alase, 2017). Hence managerial factors influencing the implementation of the NIMART in the MHCs were explored and described in this study. Some of the managers in the study were responsible for more than one MHC team with an average of two teams per manager. Each MHC team had between five to 20 MHCs allocated to them (Ngcobo, 2022a).

An email was used as a recruitment strategy for all 32 MHC teams in the district followed by a phone call to confirm if a study participation request email was received for those who had not responded to the Five MHCs managers expressed no interest in the study and others did not respond both to email and follow-up phone call. The final study sample was 12 composed of 11 females and one male.

2.4. Inclusion and exclusion criteria

The study included multi-level clinic managers with a direct managerial function in the MHCs irrespective of their professional background. They had access to a good internet connection, a computer to access emails, and a Zoom application or smartphone with WhatsApp to access WhatsApp video calls. Other clinic managers who had no MHCs

allocated to them were excluded.

2.5. Data collection

Data collection for the study took place between May and September 2021 where levels 3 and 4 lockdown restrictions were observed for Covid-19 pandemic control. Therefore, 'Social distant' (online) data collection method (Lobe et al., 2020) was required because it conformed with health and safety restrictions while still maintaining highly socialized interaction (Lobe et al., 2020) between researchers and managers. Remote semi-structured individual interviews with MHC managers were conducted in English after obtaining informed consent, using WhatsApp (n = 5) and Zoom (n = 7) video calls. Flexibility rooted in online communication (Cater, 2011, Jankowski and Selm, 2005, Lobe et al., 2020) allowed managers to choose the time and location for their interview; some preferred to be interviewed while at home and others in their offices.

The interviews were guided by a schematic researcher-developed interview guide (Jamshed, 2014) containing the introduction, process, and conclusion. An open-ended question regarding the factors influencing the implementation of NIMART in MHCs of the eThekwini district was asked from the managers after obtaining basic biographic data. The average duration of interviews was 50 min and conducted only once for each manager. All interviews were audio-recorded. Fieldnotes during the interview were also taken by the researcher. Verbatim transcription and analysis took place immediately after each interview. It was noted that by Manager Five, saturation of data had already taken place, as no new information emerged from Participant Six onwards (Hill et al., 2014, Saunders et al., 2018). However further interviews were continued until the 12th participant, as guided by (Guest et al., 2006, Bryman, 2016, Ando et al., 2014) who suggest that satisfactory saturation in a homogeneous group is reached with a minimum of 12 participants.

2.6. Data analysis

Data were analyzed using ATLAS.ti and followed the basic steps of notice-collect-think (NCT) analysis (Friese, 2019, Meno et al., 2019, Makhado et al., 2020). These basic steps empowered the researcher to work systematically instead of asserting the software to be the method itself (Friese, 2019). The researcher noticed aspects of the data that led to labeling and began coding what was noticed (Friese, 2019, Meno et al., 2019, Makhado et al., 2020). This coding was divided into descriptive-level and conceptual-level analyses. The descriptive level analysis consisted of two stages of coding; thus 1st stage coding involved reading the transcripts and field notes to notice patterns in the data, then writing notes, marking segments, and attaching the first preliminary code, and 2nd level coding served to validate the codes list, and the code list was developed usefully, then not many new codes were added at this stage. This led to the conceptual level analysis. Data was then linked using the network, views functions, exploring developed ideas further, and integrating all findings in writing and graphic representations (Friese, 2019, Meno et al., 2019, Makhado et al., 2020). Thus, themes and sub-themes were developed. A co-coder was assigned for the validation of codes and themes.

2.7. Ethical considerations

Ethical clearance to conduct the study was granted by the North West University Health Research Ethics Committee (Ethics Number: NWU 00934–19-A1), KwaZulu-Natal Province Department of Health (KZ_202002_017), and eThekwini Municipality Health Unit (30/1/1/6/3/1). Voluntary participation and written consent were obtained from all the managers, as according to (Xu et al., 2020) recommendations for studies involving human subjects and conducted in health sciences. Privacy, confidentiality, and anonymity were obtained through non-disclosure of managers nor clinic names, codes were assigned to an interview schedule. A separate file was kept not easily linking the codes to the managers. Only research team had regulated access to data and ensured the following: Encrypting identifiable data; removing face sheets containing identifiers (e.g., names and addresses); properly disposed of, destroyed, or deleted study data/documents; limited access to identifiable information; securely stored data documents within locked locations; and assigned security codes to computerized records. Data would be stored securely for five years. Shredding of paper-based data, and securely erasing of electronic data was done after the agreed period.

2.8. Trustworthiness

Credibility, applicability, consistency, and confirmability (Lincoln and Guba, 1985) were used to ensure the trustworthiness of the study. Credibility was ensured through reflexivity; asking for clarification of shared experiences during and after the interview to ensure that the shared points were accurately understood and sharing the initial interpretations of the data with the participants. Thus, ensure that they resonated with their experiences by engaging in consultations and discussions with the research team. A detailed audit trail was created to ensure consistency, so other researchers could follow the same process, and by engaging in consultation with experts throughout the research process. A detailed description of the research context was provided to ensure that applicability. Confirmability was confirmed by ensuring that the study findings were grounded in the data, using participants' quotes, and validating the interpretations of the data with the study participants.

3. Results

3.1. Demographic information

Most of the participants ($n = 8$) were from the provincial department of health. All managers' ages ranged between 35 and 58 years, and 48 years being the average. With just less than 5 years of average managerial experience at the MHCs. Nursing qualification background was common on all the managers including training exposure to NIMART training of which only one manager had not undergone NIMART training. Out of the 11 managers trained only seven were certified. Only two managers had sole responsibility to the MHCs, others had additional roles attached to their daily duties which included operational manager at the fixed clinics, PHC district manager, nursing service manager, and senior manager at a CHC. Only one manager was found to be stationed at the designated MHCs central office for managers. A summary of detailed demographic profile is outlined in Table 1., Figs. 1 & 2.

3.2. Themes and subthemes from the study

Three themes and 12 subthemes emerged from the interviews, which explored the managerial factors influencing the implementation of NIMART in the MHCs of eThekwini Municipality, as outlined in Table 2..

4. Discussion

It was noted that MHC managers in the study did not maximize the time to manage and supervise the MHCs completely. Instead, other roles as depicted in Table 1. and Fig. 2, seemingly took precedence over MHCs deliverables. This mainly resulted in them relying on remote or distance management techniques when it comes to MHCs. Remote or distance management is not foreign to nursing practice, but it is widely implemented in developed areas (Weymouth et al., 2007), where efficient information technology (IT) infrastructure is not a challenge (Charoenngam et al., 2004). However, in developing countries such as South Africa, such management styles and practices prove not to be

Table 1
Biographic information of participants.

Demographic variables	Participants characteristics
Sex	Male: (n = 1)Female: (n = 11)
Entity employed at: Municipal/ provincial	Municipality: (n = 4)Provincial: (n = 8)
Other manager roles	None: (n = 2)multiple roles, (including being PHC manager, CHC & clinic operations, senior management services): (n = 10)
Location	Central office: (n = 1)PHC clinics: (n = 5)CHCs: (n = 4) District office: (n = 2)
Number of mobile points responsible for	Minimum: 5 Maximum: 20
NIMART trained	Yes: (n = 11)No: (n = 1)
When was NIMART training	Minimum: 5 years ago Average: 9 years ago Maximum: 11 years ago,
Received Training Certification	Yes: (n = 7)No: (n = 5)

favourable, not to mention in the MHCs settings because of poor and non-existent IT systems. As much as literature (Daft, 2015) indicates for effective management and control of programs physical presence of managers is not required. However, the art and science nature of nursing (Raiesifar et al., 2019) necessitates the physical presence of managers, mainly for monitoring and evaluation purposes. Such necessity becomes more pronounced in MHC settings because MHCs are extremely compromised healthcare delivery methods compared to all other available healthcare delivery systems in the country. Therefore, the physical presence of managers in this context will foster motivation for nurses and gain a sense that managers are supportive since MHC nurses have reported a lack of support and care from their managers as the major motivation killer working in such settings (Ngcobo, 2022b). Therefore, the physical presence of managers will enable the nurses to do and be their best. Ultimately resulting in the running of an effective NIMART program, since coaching, learning opportunities, obstacle removals, and offering feedback will be afforded by the managers. This communicates an enabler role of a manager (Daft, 2015) which always yields boosted confidence for the subordinates. Furthermore, based on seasoned management experience that MHCs managers have, innovative management styles and strategies are expected to be implemented reactive to programmatic and human resource needs in the MHCs.

According to (O'Rourke, 2019) there are three essential skills approach that managers need to possess namely conceptual, human, and technical skills. In this study, managers were seen to be possessing technical skills when it came to the actual NIMART program since almost all of them were trained in it except for one manager. This is encouraging because it would make for the translation of programmatic and organizational goals into achievements. Human skills were also displayed by managers to a certain degree as their perspectives (Hart, 2020) about NIMART program implementation were identified in the study. However, a lack of conceptual skills was noted, even though that it could be accepted that such lack is in line with their middle management appointed function. Conceptual skills deal mainly with organizational strategic plan and vision, but a small degree of credit needs to be given to the MHC managers as they were able to make suggestions in line with the identified existing challenges even though powers and confidence to execute it were lacking (DuBrin, 2022).

Weak leadership and governance are one of the challenges in the South African healthcare system is faced with (Olaniyi et al., 2022) and will hamper the of sustainable developmental goals (SDGs) about health (UnitedNations, 2015). However, managers are believed to be capable of steering the ship in the right direction, if they make intentional management decisions, even in the lowest settings such as MHCs. Their years of experience in both nursing and management as shown in Fig. 1 makes them to be more than capable and equipped. Because health information and performance indicators achieved in the MHCs are recorded either, under local PHC, CHC, or district hospitals that the MHCs are affiliated with. Thereby feeding the overall essential data for the district. Therefore, the work done in the MHCs of South Africa contributes significantly towards the aspired universal health coverage. Whereby PHC settings are the main drivers through National Health Insurance. Therefore, managers of MHCs play a very important role in NIMART implementation at the grassroot level. Additional roles that MHCs hold in various levels as shown in Fig. 2, communicate the importance of their assignment. Managers' assignments regarding offering NIMART services in the MHCs are communicated in various themes and subthemes captured from their experiences with the implementation of the program.

4.1. Theme 1: Challenges in implementing NIMART services in MHCS.

4.1.1. Subtheme 1: Shortage of staff.

Over half of 57 countries reported to have critical health worker shortages are in Africa (Mundeva et al., 2018), and that explains the

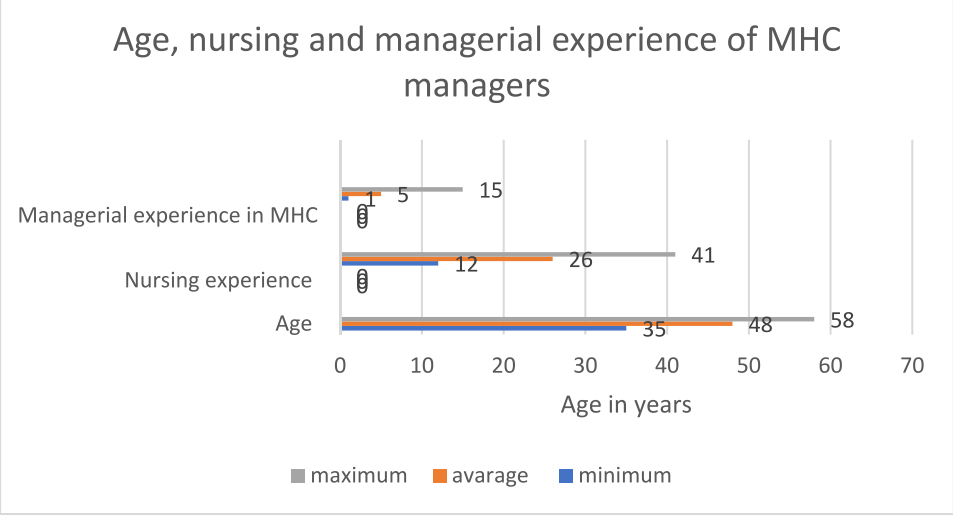

Fig. 1. Age, nursing & managerial experiences of MHCs.

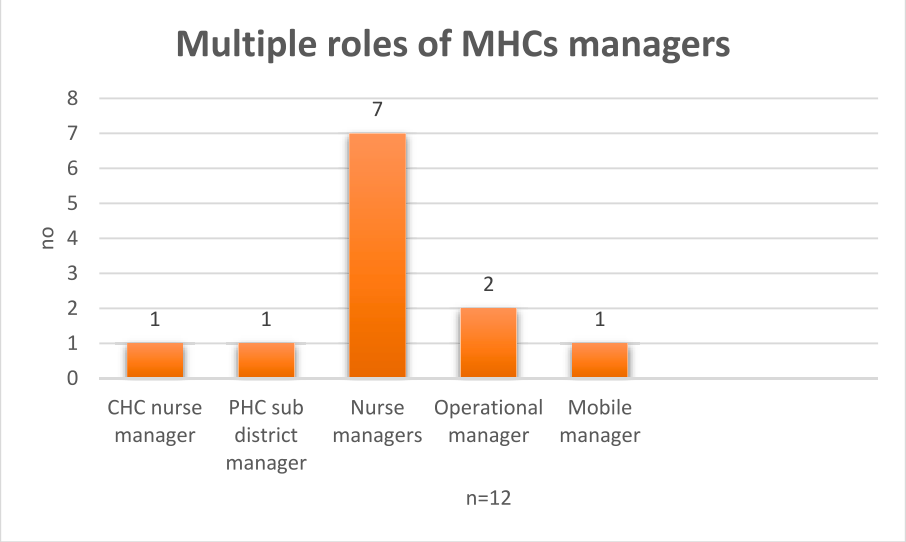

Fig. 2. Other roles that MHC managers hold.

Table 2
themes and subthemes of managerial factors which influence NIMART implantation in MHCs.

Themes	Sub-themes
1. Challenges in implementing NIMART services in MHCs	1.1 Shortage of staff 1.2 Shortage of medical equipment for NIMART services 1.3 Challenges related to infrastructure in MHCs 1.4 Lack of budget for NIMART services
2. Positive factors influencing implementation of NIMART services in MHCs	2.1 Nurses are trained on NIMART 2.2 Continuous meetings
3. Suggestions to strengthen implementation of NIMART services	3.1 Proper planning 3.2 More nurses should be trained on NIMART 3.3 Employment of more nursing personnel 3.4 Collaboration with relevant stakeholders 3.5 Proper infrastructure for NIMART services 3.6 A need for more allowances

current challenge that has been reported by MHC managers. These challenges are similar to what has already been noted in the primary healthcare clinics that are implementing NIMART (Davies et al., 2013). However, in the MHCs the problem seems to be more pronounced.

> *"The staff is depleted, we've only got one professional nurse that is working at the mobile, we've got a staff nurse which is the enrolled nurse, we don't have a clerk anymore, we don't have a nursing assistant, so it's very difficult"* (Manager 10, female, age 53)

Staff shortage within the MHC is a significant challenge as fewer members of staff are available, and also are expected to perform other non-clinical nursing duties due to the absence of other categories of staff. Automatically this increases nurses' workload while less and limited time gets left for nurses to concentrate exclusively on NIMART services (Visser et al., 2018). In some cases, the MHCs sometimes don't even have NIMART-trained nurses available leading to partial or no NIMART services being rendered as a result of staff shortages.

> "We are not at liberty to do all those things [hiring of staff]. You are a pharmacist, you dispense, you do vitals, you are a clerk a person but yet the nurse-client ratio is being calculated, the mobile is calculated the same as the fixed facility" (Manager 6, female, age 42).

4.1.2. Subtheme 2: Lack of budget for NIMART services.

Implementation of any healthcare program requires careful planning which also includes proper budgeting. It was noted that the MHCs were running the NIMART services with no clear allocated budget and MHCs managers, and managers were aware of the problem but had no tangible solutions. Lack of budget impacts significantly on any programs because it means certain core activities will not be delivered effectively as there is no money.

> *"There's nothing that can be done, isn't it [senior managers] tell us that there is no budget?"* (Manager 2, female, age 47)
> *"A mobile doesn't have their own budgets ……"* (Manager 10, female, age 53)
> *"When we are starting with the new financial year, we need to address all those challenges, we need budgets because there is nothing for us at the moment"* (Manager 5, female, age 56)
> *"We don't have a budget. That's what I was told previously. I'm not sure about now"* (Manager 9, female, age 47)

It is concerning that there's a lack of budget because this means that NIMART services are poorly supported in the MHCs and negative outcomes for PLWH and staff (Davies et al., 2013) can be anticipated as suboptimal care will be the order of the day.

4.1.3. Subtheme 3: Shortage of medical equipment.

Due to the pronounced lack of MHCs budget for NIMART services, inevitably essential equipment required would be short and not readily available. Ultimately affecting the quality of care that is rendered.

> *"…You cannot initiate [ART] without a scale…."* (Manager 9, female, age 47)
> *"But since it's a mobile, those facilities, or that part of the equipment is not available, because you need a computer or a laptop to have TIER as a system installed…."* (Manager 10, female, age 53)

Somehow it feels like the MHC managers' hands are tied since they cannot express their financial management role (Naranjee et al., 2019). This impacts negatively on procurement of appropriate and essential medical equipment to realize effective HIV care such as point-of-care devices/equipment to determine CD4 cell counts, viral load testing, and early infant diagnosis (Rowley, 2014), yet these are critical in the

HIV care and very convenient for MHCs settings.

4.1.4. Subtheme 4: Challenges related to infrastructure in MHCs.

MHC managers are entrusted to oversee all MHCs-related activities, therefore they should have an eye for innovative ideas geared towards rendering and improving HIV care which is context specific to each particular MHCs as MHC points are different from each other. Hence, a one-size-fits-all management approach cannot be adopted. Managers should be at liberty to put processes in place and improve on basic infrastructure, equipment, and logistics thereof, which were found to be grossly lacking in this study, as outlined by managers:

> *"We don't have a Courier service that comes in the afternoon, and we also don't have NHLS that's coming after 16 h00 o'clock"* (Manager 1, female, age 52)
> *"The lab used to always complain that our specimen had clotted" (*Manager 2, female, age 47)

It was noticed that the MHC managers were adopting the management style predominantly used in fixed clinic facilities. Also, a gross lack of autonomy is evident as exercising no power over critical activities such as staff provision/allocation, equipment, and improvement of infrastructure for the MHCs. Likely gross dissatisfaction is expected from both the PLWH and staff members as end users and consumers of the service. In literature (Visser et al., 2018, Health, 2011) it is stated that supportive management is key in the delivery of the NIMART program. However, based on the challenges above it was evident that managers compromised NIMART implementation activities by having no power.

4.2. Theme 2: Positive factors that enable NIMART implementation

4.2.1. Subtheme 5: Nurses are trained on NIMART

Managers were confident that HIV care that is rendered in the MHCs is of superior quality as they have sent nurses for NIMART training to ensure that they are competent. Furthermore, literature (Long et al., 2011, Fairall et al., 2012, Sanne et al., 2010) documented that there is no difference found between HIV care provided by the medical doctors to that which is provided by the nurses who are NIMART trained. Therefore, the MHCs are performing well in ensuring that the capacity development of their staff members takes place as improved clinical outcomes for PLWH can be ensured through competent care. Training is one of the core management responsibilities as per the PHC supervision manual (NDoH, 2009).

> *"Even the OM that has just started she is NIMART trained, and she also goes with them* [team] *and she's very hands-on and she goes out with the team".* (Manager 1 female, age 52)
> *"All services are being provided there, HIV testing, initiation of ART, we have a NIMART trained Nurse, the screening as well, so it's basically everything and they took bloods as well"* (Manager 3 male, age 35)

4.2.2. Subtheme 6: Continuous meetings

Managers' direct supervision and contact with MHC staff is a positive factor that ensures that engagements between staff and managers exist and that creates a platform for discussion of the latest HIV care activities and developments and how to position them accordingly for the context. This in return provides a platform for implementation of continuous quality improvement activities within the programme, which should always be encouraged in line with monitoring and evaluation activities.

> *"…we are providing supervisory visits to the mobile, besides that we also have weekly nerve meetings where we see their productivity regarding the HIV family planning as well, stats and any challenges we are addressing there"* (Manager 3, male, age 35).

4.3. Theme 3: Suggestions for NIMART implementation

4.3.1. Subtheme 7: Proper planning

It is suggested that proper proactive planning should be in place in the MHCs because for any healthcare system to function well, managers need to forestall and predict worst-case scenarios and take steps to address, in that way, help towards reducing unwanted HIV programmatic effects in clinical outcomes, complications, and death (Hick et al., 2020) would be achieved.

> *"….so I think we need to revisit the issue, sit down and make a plan, because we need to be providing a service"* (Manager 1, female, age 52)
> *"They* [top management] *normally send plan to us and then we send one person for training, and we are not allowed to send more than one"* (Manager 3 male, age 35)

Lack of planning signifies that the managers could not regard these services as part of the priority areas, yet, in the country HIV is regarded as one of the priority areas for public health. Managers could adopt and adapt available scarce resource strategies (Hick et al., 2020, Hick et al., 2009) to overcome the poor planning challenge.

4.3.2. Subtheme 8: More nurses should be trained on NIMART

The only way that various ministries of health in many countries could cope with HIV management was through the implementation of proposed task shifting by World Health Organization, whereby nurses needed to be trained on NIMART (Rispel et al., 2018). South Africa now has the biggest HIV care management and treatment program in the world (Dunlop et al., 2022) through its nurses. Therefore the impact of NIMART training is palpable in the context where the epidemic is the recorded highest globally (Ngcobo and Mchunu, 2019, Kassanjee et al., 2022). So MHCs need to be aligned as well, by training nurses working there on NIMART. Training improves NIMART implementation (Visser et al., 2018).

> *"It starts with staffing because we need professional nurses that are NIMART trained. So, training must be done to the nurses and make sure that there will be no nurse who will not be NIMART trained"* (Manager 10 female 56)
> *"….so the senior you are the more opportunity you are likely to be sent for* [NIMART*] training"* (Manager 3 male, age 35)

4.3.3. Subtheme 9: Employment of more nursing personnel

Research has shown that most countries especially in the African continent are lagging when it comes to recommended health workforce coverage (MacKay et al., 2020) and it is also evident in the MHC settings as they are not spared.

> "The third thing is we could have extra staff in mobiles, that could be another one. we can have an extra Nurse because I know in this district my mobile clinic staff are overworked" (Manager 3 male, age 35).
> "The mobile must have three PNs [professional nurses] and OM [operation manager], full staff establishment if its full complement of staff" (Manager 6, female, age 42).

In the study, the MHC managers were calling for the employment of more nurses to manage the workload. Their call is understood since the setting where the study was conducted is known to be a hyperendemic area (Vandormael et al., 2020) found within South Africa which is the global epicenter of the HIV epidemic (Ngcobo and Mchunu, 2019). So, the employment of more nurses is indeed a priority need.

4.3.4. Subtheme 10: Collaboration with relevant stakeholders

Many steps are found within the HIV care continuum (Pinto et al., 2018) that PLWH needs to undergo, which sometimes require day-to-day attention, in response to possible existing environmental or personal factors (Philbin et al., 2016). Therefore, the involvement of other

stakeholders is deemed very important because MHCs do not operate in the same area every day. Forming partnerships with various stakeholders ensures that contact with the patient continues even after the MHCs are not there especially when community care workers are on board.

> *"…collaboration is number 1, working with the counsellor… the community councillor, the political councillor because we are in their areas, they are supposed to and should be supporting us… And, we've got CCGs [*community care givers]". (Manager 2, female, age 59)

Community caregivers who are also known as community health workers have been documented to play such a crucial role in HIV treatment (Perry et al., 2014, Mundeva et al., 2018) especially since their numbers have increased in South Africa (van de Merw, 2013). Therefore, a need for them to be part of the MHC care provision will render favourable outcomes.

4.3.5. Subtheme 11: Proper infrastructure for NIMART services

The sole purpose of providing health care services is to improve population health outcomes, such improvement will take place if structural inputs to care are in place. However, the MHCs need to facilitate acceptable structural components for HIV care to take place such as ensuring privacy is provided for at the MHCs points.

> *"….you don't have to build a decent structure, you can even have a carport and make it a health post, you see that? Partition it and make rooms, that makes if possible that if I'm with you have that confidence"* (Manager 2, female, age 59)
>
> *" ….I can recommend that we must get gazebo's at least so that we can have more space to work, because the challenges is some space in other [mobile] points. if we can get gazebo's we can work freely*" (Manager 4 female age 48).

4.3.6. Subtheme 12: A need for more allowances

The managers outlined that working in the MHCs requires special attention and equipment for the work to be effectively done. Allowances in terms of enabling factors for their work is key.

> *"With more support as I have mentioned, in terms of having ways to communicate. If mobile clinics can be offered gadgets, phones with airtime. Tablets or something to log on* to *the NHLS data to communicate with other facilities, I think that will improve the service*" (Manager 10 female age 53).

Improvement of the NIMART services can significantly be improved if actions towards identified challenges could be acted upon for instance if they can have access to Tier.net access and enter/ track their own patients in real-time would be such a victory for both the patients and the workers. The unavailability of the network cannot be used as an acceptable excuse because, during the national census, the offers can rove around with effective gadgets that don't need connectivity but need an appropriate application to be installed. It is in the hands of the MHC managers to advocate for such essentials.

All study suggestions point towards the improvement of the proper implementation of NIMART services in MHCs while enabling disadvantaged communities like eThekwini to access priority healthcare services (Bertoncello et al., 2020). That is commendable when it comes to striving towards achieving universal ART access, which is the global standard for treating PLWH and attaining epidemic control (Myburgh et al., 2021).

5. Implications of the study

The study findings have various implications on nursing management, clinical nursing, and nursing research. Managers in the MHCs lack autonomy in running day-to-day operations in the MHCs but rather depend on the decisions made centrally by senior management, which might not be implementable in the MHCs context. Non-involvement in decision-making by middle managers in nursing has been reported previously (Mogakwe et al., 2020), and such practice hinders contextual innovations that the onsite/direct managers could implement. This relates to nursing management practice, and therefore, some power should be given to MHC managers, as nursing managers in the healthcare settings are strategically placed to lead the implementation of any proposed healthcare reforms (Munyewende et al., 2014, Mogakwe et al., 2020).

Due to multiple challenges raised in the study, they all directly affect clinical nursing practice in the MHCs, whereby the quality and standards are somewhat compromised. For nursing research, more contextual studies are needed to explore the MHC environment further, as these findings serve as a basis. MHCs form an excellent platform to further reach the communities in need of health, so they should be taken seriously by all stakeholders involved as improved healthcare outcomes can easily be achieved through this medium of healthcare delivery.

6. Strengths and limitations of the study

The study forms the baseline for management needs in HIV care through the MHCs. According to the author's knowledge, no evidence of such a study was conducted in the MHC setting, and the nature of qualitative inquiry provided more profound insights into the managers' perceptions about NIMART implementation in the MHC context. Furthermore, a holistic view was achieved since the study included all the public stakeholders that render the service, i.e., municipality and provincial MHC managers. Therefore, the findings of this study contribute to significant domains in nursing, including nursing research, nursing education, and nursing management practice. The study findings form a base for future nursing research especially in the MHCs contexts as an alternative health care delivery strategy towards universal coverage access.

This study possesses limitations as the study was only conducted in just one district in one province in KwaZulu Natal, which could affect the generalizability of the results.

7. Conclusion

Multiple challenges exist in the MHCs implementing NIMART services, and the managers are at the coal face of these challenges and some of the management roles in the MHCs are not realized. However, these managers are still accountable for providing the answers and solutions to the problems encountered in the MHCs as they are appointed to drive and give direction to the MHCs operations. Furthermore, it is expected that they effect the study suggestions as they are all about improving the NIMART rendered in the MHCs. Mainly because MHCs ensure the expansion of the services and somewhat increase treatment access, which is the goal for universal HIV treatment coverage. This study drew the perspective that communicates that MHC managers do need to pay attention to MHCs entrusted to them. For feasible innovative contextual management styles to be adopted or adapted since they will lead to the strengthening of HIV care delivery in MHC settings. Managers being overwhelmed with other management roles outside the MHCs derails their focus on the MHCs resulting in managing from afar and this study has proven that managing a healthcare program remotely yields more unfavourable outcomes. MHCs need present involved and highly motivated managers with power so that contextual innovative ideas can be implemented with one goal in mind MHCs' movement towards universal health access and coverage.

SJN has contributed to the design, data collection, data analysis, interpretation, and manuscript development. LM and LAS have contributed to data collection, interpretation, and revision of the final manuscript. All authors read and approved the final manuscript.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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