



Professional nurses' challenges regarding drug supply management in the primary health care clinics

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ABSTRACT

Drug Supply Management (DSM) is the core responsibility of pharmacists and pharmacist assistants however in practice South Africa has a huge shortage of pharmacists. In order to deal with excessive shortage of pharmacy personnel, the DSM responsibilities were handed over to professional nurses through strategies such as task shifting which were introduced as an alternative method to improve access to health care services especially in the Primary Health Care (PHC) clinics.

The purpose of the study was to explore the challenges experienced by professional nurses regarding the implementation of the drug supply management standard operating procedure in the primary health care setting of the City of Ekurhuleni. The study was conducted in primary health care clinics in the City of Ekurhuleni.

Method: An exploratory contextual qualitative research design was followed. The study population included all professional nurses working in the City of Ekurhuleni. Purposive sampling was used to select a sample of professional nurses with at least two years' experience. Semi-structured interviews were conducted. Data analysis was conducted and using qualitative content analysis.

Results: The study identified the following challenges: non-adherence to the standard operating procedure for drug supply management, human resources challenges, inadequate management support and compromised patient care.

Conclusion: The suggested recommendations from the study will promote adherence to the standard operation procedure regarding drug supply management outcomes.

1. Introduction and background information

Drug shortages and stockouts is a huge challenge globally affecting developed countries, like United States of America (USA), Europe and China and developing countries like Mozambique, Nigeria, Uganda (Ogbodu, Maputle, & Mabunda, 2019). Factors contributing to drug supply challenges in the African developing countries include: lack of qualified health workers to manage the medicine supply chain, inadequate financing, regulatory problems, lengthy procurement processes, lack of incentives for maintaining sufficient stock levels, poor logistics management; corruption (Lubinga et al., 2022). Where there is lack of qualified health workers to manage drug supply, nurses are have no choice but to take over management of drugs to facilitate health service provision.

In the South African context, drug supply management (DSM) is an essential component for the provision of quality health services in a primary health care (PHC) setting. The National Drug Policy (NDP)

provides a sound foundation for managing drug supply and adhering to the stipulated principles (South Africa 2014). According to the NDP of South Africa, Government is committed to ensure the adequate and reliable supply of safe, cost-effective drugs of an acceptable standard to all citizens of South Africa. Effective DSM is recognised as an essential component of quality and affordable health care services. DSM ensures that essential medicines are available in adequate quantities to meet the health needs of the population (Zuma, 2020).

Drug supply challenges in primary health care are experienced on regular basis. The drug shortages and stockouts in South Africa have been regarded as a national crisis which affects the clinical outcome of patients, regressing the advancement of the latest clinical management approaches introduced in the country. Insufficient resources, the shortage of pharmacists and inaccurate forecasting when procuring the drugs and supplies resulted in drug shortages and stockouts (Bateman, 2015). The chronic medicine shortages resulted in treatment interruption which increased the

Abbreviations: DSM, Drug Supply Management; PHC, Primary Health Care.

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risk of opportunistic infections, treatment failure, anti-retroviral (ARV) drug resistance in patients infected with HIV/AIDS, uncontrolled non communicable diseases with complications, such as death, unplanned pregnancies, infant mortality and infringement of human rights to essential medicines and health care (Oschmann, 2016).

Drug shortages adversely affected patients' medical health care plans and displayed negative outcomes (Zuma, 2020). In order to ensure uninterrupted availability and accessibility of essential medicine, appropriate manpower, acceptable budget and broad information systems were identified as significant aspects to be present in the health system (WHO, 2015).

According to Crowley and Stellenberg (2015), DSM is the core responsibility of pharmacists and pharmacist assistants. However, South Africa has a huge shortage of pharmacists as there are only 16,365 pharmacists registered with the South African Pharmacy Council (SAPC) who are shared among public and private health care sectors and independent practices (SAPC2020). In order to deal with the excessive shortage of pharmacy personnel, the DSM responsibilities were delegated to professional nurses as an alternative method to improve access to medication, specifically in PHC clinics (Crowley & Stellenberg, 2015).

The City of Ekurhuleni as an attempt to address drug supply challenges developed a standard operating procedure through which professional nurses were assigned on rotational basis to manage drug supply in the primary health care facility and made provision for drug supply management training by means of a short course programme. Despite those measures, it would appear that the DSM systems at City of Ekurhuleni PHC clinics lack effectiveness which could contribute to poor storage, inadequate organising of drugs and supplies; poor reception of ordered drugs and supplies; inaccurate record keeping; inadequate cold chain management and poor dispensing of drugs and supplies to patients or clients.

2. Statement of the research problem

City of Ekurhuleni PHC clinics experienced challenges in drug supply management which impacted negatively on the provision of treatment to users of the services. During 2017, the pharmaceutical team conducted audits at PHC clinics in City of Ekurhuleni. The findings were that professional nurses working at PHC clinics do not adhere to DSM standard operating procedures (Mathye & Mokgehele, 2018).

During site visits the researcher, as a primary health manager in the City of Ekurhuleni, found that the medicine rooms at some PHC clinics were untidy and filthy; record keeping of drugs and supplies was inaccurate; room temperatures were not being monitored; expired stock was kept in the storeroom; bin cards were not utilised and emergency cupboards were not locked. The researcher intended to understand the challenges that prevented professional nurses from implementing DSM SOPs which had a negative impact on the provision of treatment. Hence, the purpose of the study was to explore the challenges experienced by professional nurses when implementing drug supply management standard operating procedures in a primary health care setting of the City of Ekurhuleni.

3. Significance of the study

The study will assist the professional nurses in sharing their experiences of the implementation of DSM SOPs. The suggested recommendations could be implemented to improve DSM which, in turn, would improve service delivery at PHC clinics to clients visiting the PHC clinics as their health outcomes would be improved due to the availability of medications. From a management perspective, specific interventions could be introduced to streamline the DSM system that might reduce costs and indirectly relieve the burden on the taxpayer.

4. Research design and methods

4.1. Research purpose

The purpose of the study was to explore challenges experienced by

professional nurses in implementing DSM SOPs at the City of Ekurhuleni primary health care clinics.

4.2. Research question

The following grand tour question was asked:

Kindly share with me the challenges experienced when implementing the SOPs with regard to DSM in your PHC clinic?

4.3. Research design

A descriptive exploratory contextual qualitative research design was employed for this study as the researcher intended to explore the challenges experienced by professional nurses with the implementation of DSM SOP for PHC clinics in the City of Ekurhuleni and recommendations to enhance the implementation of DSM SOP.

4.4. Research setting

The study was conducted in the northern and southern sub-districts of the City of Ekurhuleni district of Gauteng, an uncontrolled real-life environment and a natural setting where the research participants experienced challenges with DSM at PHC clinics where pharmacists and pharmacist assistants were not present.

4.5. Population and sampling

The study population comprised professional nurses working at the eighty PHC clinics in the City of Ekurhuleni district of Gauteng.

The sample for this study was the purposively selected professional nurses responsible for DSM for at least two years in twenty-three City of Ekurhuleni Primary Health Care clinics without pharmacist assistants. The invitation to participate was sent to these professional nurses. Thirteen professional nurses accepted invitation to participate in the study. Data saturation was achieved by the tenth participant.

4.6. Data collection

Data collection for this study was commenced after obtaining ethical clearance from the University of South Africa Health Research Committee, National Health Research development, Ekurhuleni Health District and City of Ekurhuleni. The researcher distributed emails as a means of communication to the PHC managers, requesting to conduct the study at their respective clinics. Data collection methods included in-depth, semi-structured individual interviews, observations and field notes. Semi-structured interviews were conducted, using an interview guide with open-ended questions and had a list of six probing questions at the PHC clinics which was a natural setting. The semi-structured interviews assisted the researchers in collecting data from the participants who had been exposed to the circumstances for example, lived experiences, perceptions, beliefs, and their perceptions of the chosen topic (Moule & Goodman, 2014).

Interviews sessions were scheduled with the research participants which lasted not more than 45 min. Face-to-face, semi-structured interviews were conducted in English at the participant's workplaces and were audio-recorded by the researcher on the day of the interview. A writing pad and pen were kept at hand to document the field notes, such as non-verbal behaviour. The information leaflet and consent forms were provided to the research participants who signed voluntarily after the research processes had been explained to them.

The interview guide was formulated for DSM semi-structured interviews. The piloting of the interview guide was conducted with two professional nurses at the City of Ekurhuleni PHC clinics of the eastern sub-districts who met the inclusion criteria and were not part of the sample. The researcher changed some wording and the order of the probing questions. It provided the researcher with the opportunity to

familiarise himself with this type of data collection.

4.7. Data analysis

Data analysis occurred concurrently with data collection. The data was captured by the researcher, using audio-tape recordings and the observations made during data collection were documented on the field notes, following the interviews. Verbatim transcription of research data was implemented; field notes and digitally recorded information was read and intently listened to in order to capture the meaning and perceptions created and shared during the interviews to become familiar with the gathered data. The researcher consistently modified the huge quantity of text information into an orderly and brief summary of the key outcomes or findings. The six steps of Erlingsson and Brysiewicz (2017) were utilised to analyse the data. The data was read several times, condensed into meaningful units and was coded and developed into categories and sub-categories.

4.8. Trustworthiness of the study

The trustworthiness of the study was maintained by using the five criteria of Lincon and Guba: credibility, dependability, confirmability, transferability and authenticity, as cited by Brink, Van der Walt, and Van Rensburg (2017).

Credibility was attained through prolonged engagement of the researcher with the professional nurses with the intention to gain an in-depth understanding of the challenges they experienced with the implementation of DSM SOP.

Dependability criteria were ensured through an audit trail of audio-taped text, transcriptions and field notes.

Transferability criteria were subjected to the readers of the research report. The researcher disclosed the research design followed and the context in which the study was conducted (Creswell 2014).

Confirmability criteria was ascertained when the researcher remained focussed on conducting the study without manipulating the research process during data collection, sampling, data analysis and interpretation of the findings (Brink et al., 2017).

Authenticity criteria was achieved by using a reflective journal and establishing rapport with the participants. The focus was on the relevance to the topic studied and described the participants' views and experiences as accurately as possible (Polit & Beck, 2017).

4.9. Ethical considerations

Ethical approval was obtained from the University Research Ethics Committee and gatekeeper permission was obtained from Ekurhuleni Health District Research Committee. The Helsinki declarations guidelines were adhered to, including the voluntary written informed consent forms; maintenance of confidentiality; keeping the consent forms separately and using pseudonyms when interviewing the participants.

5. Results

5.1. Profile of the participants

Owing to data saturation, the study comprised ten participants – professional nurses aged between 35 and 65 years who have worked in a PHC setting for an average period of eight years since registration with the South African Nursing Council. Fifty percent of the participants had undergone training in DSM.

5.2. Categories and themes

The following categories and themes listed in Table 1 below emerged from the study and will be discussed in the following paragraphs:

Table 1
Categories and themes.

Categories	Themes
Non-adherence to the SOP for DSM	Poor stock management Procurement process not well-managed Poor stock distribution and receipt Inadequate documentation and poor record keeping of drugs Insufficient storage and organisation of drugs in the medicine storeroom Insufficient security system Drug shortages and stockouts
Human resources challenges	Inadequate staffing Altered job description Lack of empowerment of professional nurses and facility managers Dual responsibilities Lack of responsibility and accountability to manage the medicine stock The professional nurses were psychologically and emotionally depleted Time management
Inadequate management support	Lack of support from pharmacy and PHC managers
Compromised patient care	Patients are turned away

6. Discussion

The following paragraphs present the discussion of the identified challenges in line with the research purpose which was to explore challenges experienced by professional nurses in implementing DSM SOPs at the City of Ekurhuleni primary health care clinics.

6.1. Non-adherence to the drug supply management (DSM) standard operating procedure (SOP)

6.1.1. Poor stock management

The study found that in the primary health facilities where the participants were working there were challenges related to drug stock management as the drugs were not managed in accordance with the DSM SOP, nurses admitted to not implementing proper stock management procedures as required by the stock management procedures

"Sometimes you don't even check the stock right you are supposed to actually go through the stock that you have in stock. Pharmacy also has its own challenges; they do give you expired times because they want to get rid of it." (Participant 4)

The training guidelines require checking the stock on hand before placing new orders and rotating the stock to promote First-in, First-out (FIFO) principles to minimise the expiry of drugs before use (Mashego, Mputla, Dlamini, Kinuthia, & Van Rooyen, 2017).

6.1.2. Procurement processes are not well-managed

The primary health clinics also experienced challenges related to the procurement processes which include drug ordering and follow up on the deliveries. The clinics did not comply with the drug procurement processes, since the participants reported the following challenges which resulted in the procurement processes not being followed:

"I don't have the time to comply with the ordering schedules. It's not an easy, it's challenging somebody will be sick you cannot be doing this or there will be a meeting" (Participant 2).

The finding was confirmed in a study conducted by Zuma (2020) where the ordering schedules in primary health clinics were not complied with due to the competing priorities of the professional nurses.

6.1.3. Poor stock distribution and receiving

All the medicine and supplies should be received within 48–72 h and discrepancies should be identified and reported within 24 h. However, in practice boxes remained closed for weeks after delivery which prevented identification of different stock quantities as well as receipt of stock with short expiry dates.

The participants reported that the health facilities are failing to receive and distribute medicine stock as expected, since there is no time or dedicated personnel to perform the activity.

“Sometimes you are held up with your own work, they demand certain things that you must do at a certain time. You are in a hurry; you just need to do whatever it is that you can, so you end up having to receive the stock on paper only” (Participant 4).

Matema (2020) confirms that the distribution and receipt of medicine stock and supplies was compromised due to infrastructure challenges, inadequate storage space and unskilled health work force; hence, medication could not be received appropriately but would be kept in boxes and stacked on the floor.

Inadequate documentation of drugs and poor record keeping

The stock control cards and electronic medical monitoring system were found not regularly updated when the stock is received and issued and during physical count and removal. The participants confirmed that the transactions of the medicine and supplies are not recorded on the stock card and the stock on hand does not balance with the stock card.

“We just take, we don't minus, then the next person takes, by the time you go and count the drugs, they are short, they don't balance.” So you end up now not being able to capture all this information because when you are alone you are also in a hurry to give” (Participant 8).

A study conducted in the Upper East Regional clinics of Ghana by Kuupiel, Tlou, Bawontuo, Drain and Mashaba-Thompson (2019) supported the participants' views that the main causes of medicine shortages and stockouts resulting in stock losses and fruitless expenditure are inadequate documentation and poor record keeping of stock movement when using, receiving, issuing, removing and physically counting each product in the medicine storeroom.

Insufficient storage and organisation of drugs in the medicine storeroom

Storage space has an impact on the organisation and proper drug stock management, there was limited storage space and insufficient shelves to keep sufficient medicine stock and supplies which resulted in minimal buffer stock at the PHC clinics where the participants worked. The PHC clinics were far from the medical supplies depot, which affected the distribution, proper storage and organisation of medicine stock.

“Sometimes you receive the stock, you just use whatever that is in front of you, you don't use the First In First Out (FIFO) strategy, you won't be able to comply to the FIFO, the First Expiry First Out and so forth. Your medication is going to expire” (Participant 8). “The clinic does not have enough space hence sometimes we unpack the medicine on the floor” (Participant 2).

Matema (2020) supports the view that infrastructure challenges, like the lack of appropriate security and storage space, were the main causes of unavailability and medicine stockouts resulting from theft and uncontrolled access to the medicine storeroom in PHC clinics.

6.2. Insufficient security system

The participants reported that it was difficult to keep the medicine room under lock and key continuously, since nobody was designated to manage the pharmacy room. According to SAPC (2020), the medicine storeroom should always be kept under lock and key to control the movement of stock. The facility manager or designated professional

nurse should keep the medicine storeroom keys in the absence of a pharmacist or pharmacist assistant.

“Once I issue the key to the first one, she goes and orders, I mean those are human beings, obviously even if you put measures in place of signing for the key and so forth, they know how to break those rules because of they just want to do what they want to do, so it comes down to the fact that if five people went in there, who do you blame” (Participant 4).

Crowley and Stellenberg (2015) confirmed that PHC clinics have inadequate security systems, as the medicine storeroom in most clinics was accessible, even to non-professional staff.

6.3. Drug shortages and stockouts

PHC clinics mostly experience drug shortages and stock out challenges. The participants confirmed that they sometimes experience drug shortages and stockouts in PHC clinics, as the SOP requires the facilities to record stockouts and shortages, identify the problem and initiate corrective action and judgement.

“You find that sometimes you don't have enough drugs, so you end up running short of essential drugs. So you will find that we have a lot of items out of stock” (Participant 7).

Munedzimwe (2018) confirmed the participants' experiences that the shortages and essential medicine stockouts is a global and common challenge affecting low-income countries and PHC clinics. An example from India shows that inadequate DSM resulted in financial wastage, shortage of essential drugs and loss of confidence in health care providers, which forced patients to buy drugs from local pharmacies (Kokilam, Joshi, & Kamath, 2015).

6.4. Human resource challenges

The challenges related to the non-availability of professional nurses and pharmacist assistants to manage the medicine room and drug supply include the following:

6.5. Inadequate staffing

The study revealed that out of 80 primary health facilities in the City of Ekurhuleni, 33 health facilities did not have full time pharmacist assistants, which resulted in professional nurses having to manage drug supply. The participants expressed their concerns regarding professional nurses having to manage drug supply. The participants expressed that pharmacists or pharmacist assistants are needed in all the PHC clinics to manage the DSM service, as the professional nurses are not coping with this function.

“You have to strip one professional nurse, put her into the pharmacy area, it makes it difficult for other members to do the services properly, because now you've stripped off one person and of which that person they were relying on” (Participant 10).

“If there would be a pharmacist assistant, we know that you just order, he/she is there all the time, then is easy for them to (inaudible) take out medication as needed” (Participant 5).

Mokagwe, Ally, and Magobe (2020) reported that inadequate staffing and shortage of health workers have detrimental effects and is among the reasons for non-compliance with quality standards at PHC clinics.

6.6. Altered job description

The participants (professional nurses) reported that it was not their responsibility to manage the medicine and supplies. As a coping strategy, the responsibility of DSM is at times allocated to the clerk, general

workers and cleaners to work in the medicine storeroom.

"I felt I'm nurse, I'm not a pharmacist. My day-to-day responsibilities are patient care" (Participant 1).

Other participants stated:

"Extended Public Works Programmes, they are well trained when it comes to pharmacy, so she is the one who mostly we rely on most of the days" (Participant 10).

"Could you imagine asking the cleaner who actually had to clean every two hours to assist with pharmacy that was not possible, because they had a constant job" (Participant 9).

According to [Bobbins, Burton, and Forgarty \(2020\)](#), there was a shortage of pharmacists in PHC clinics which resulted in allocating pharmaceutical tasks to a pharmacist assistant or a professional nurse; thus, the professional nurses were experiencing an altered job description which had expanded their roles.

Lack of empowerment of professional nurses and facility manager

The study found that 50% percent of professional nurses and facility managers interviewed were not trained in DSM as required before being assigned to DSM.

"The facility did not have any professional nurse who had done drug supply management course. So at the end of the day, whoever was allocated there, we were all trying to do our best. But one of the challenges that I had experienced at the moment, none of the nurses wanted to go there" (Participant 6).

"We were not trained but the SOP was just given to us" (Participant 10).

[Matema \(2020\)](#) supported the view that professional nurses have to be trained in DSM, as the inadequately trained personnel were the contributory factors to medicine shortages and stockouts.

6.7. Dual responsibilities

The SOP recommended that professional nurses working in PHC clinics perform their core nursing functions of providing patient care and managing DSM in clinics where there are no pharmacist assistants. The participants reported that they had to juggle client or patient care and additional DSM tasks in the medicine storeroom – the managers require the statistics of the patients who are attended to during reporting time.

"Today things are okay staff complement is fine, tomorrow I'm in the consulting room, I'm working there, I'm pushing the queue, I mean for example my job description stated that I must supervise the personnel in the facility, in the pharmacy, now how do I then supervise myself in the pharmacy" (Participant 6).

The shortage of pharmacy personnel that adversely affected the PHC clinics and medicine management was counted among the reasons for non-compliance with quality standards ([Mokagwe et al 2020](#)).

6.8. Lack of responsibility and accountability to manage the medicine stock

The professional nurses would not take responsibility and accountability for the medicine storeroom and the missing drugs, since they had to attend to clients or patients and it was in the job description of pharmacists or pharmacist assistants.

"The nurse did not want to do the job, she tells me I have my full-time job, I could not be stuck in the pharmacy" I should prioritise my work." "So you must order, you must receive, you must dispense. So it is a challenge yes so at the end of the day. You don't know what happened to the drugs?" (Participant 9).

[Munedzimwe \(2018\)](#) confirms that non pharmaceutical health workers may not adhere to the authorised SOP on medicine stock

management as they do not view it as their primary function.

The professional nurses were psychologically and emotionally depleted

The professional nurses were frustrated and lacked interest in the management of medicine stock and supplies.

"So in a way, everyone got to be frustrated by the fact that there was just no staff for pharmacy to carry out this and implement this SOP properly" (Participant 7).

[Health Systems Trust \(2015\)](#) reported that interrupted supply chain management; shortage of pharmacists and medicine shortages and stockouts have strained the health care professionals, especially the professional nurses. They had to spend more time on explaining to the clients or patients about drug shortages, stockouts and thinking of alternative drugs to be dispensed and about the adverse reactions to the medicines clients may develop.

6.9. Time management

No time was allocated for the professional nurses to work in the medicine storeroom, as verbalised by the participants.

"Time is a challenge because of doing two jobs. We once requested that at least I have time allocated maybe in the afternoon somebody would see my service while I concentrated on the pharmacy" (Participant 8).

6.10. Inadequate management support

The study found that the professional nurses did not get support from pharmaceutical and PHC managers, as evidenced by the following challenges experienced.

"And I think even the support you get from maybe our supervisors, especially in the pharmacy they don't get to understand that you are not a pharmacist and sometimes you are held up with your own work" (Participant 3).

[Mokagwe et al \(2020\)](#) reported that one of the reasons for non-compliance with quality standards is senior management's lack of support as they do not understand and/or attempt to resolve the challenges that health professionals in primary health facilities have to face.

6.11. Compromised patient care

The study reported on compromised patient care as clients or patients are turned away from the PHC clinic due to the fact that the professional nurses cannot cope with the workload. The participants have reported that, due to extensive workload, nurses cannot cope with the patients and DSM.

"If I go into the pharmacy and collect the medication the patient will then have to be turned away" (Participant 6).

[Kuwawenaruwa, Tediosi, Wyss, Wiedenmayer, and Metta \(2020\)](#) stated that if the health establishment does not have the adequate workforce and physical resources to manage medicine stock and attend to clients or patients, it may leave clients or patients unattended to, which may lead to disease progression.

6.12. Study limitations

The study was conducted with only ten PHC professional nurses where there was no pharmacist or pharmacist assistant on site. The study findings are context-bound; and can therefore, not be transferred to other settings.

6.13. Study recommendations

The following recommendations are based on the findings of the study and can be applied by the South African Department of Health, Gauteng Department of Health, Ekurhuleni District Health Office, Facility Management, and DSM designated professional nurses for further research in conjunction with DSM.

6.14. South African National Department of health (NDoH)

In the light that there is less likelihood of having a permanent pharmacist assistant in all primary health clinics in the near future the department should develop and implement policies and guidelines on DSM for professional nurses in the absence of pharmacists or pharmacist assistants further in consultation with South African Nursing Council prescribe inclusion of the DSM in the curriculum of the nursing profession.

6.15. Gauteng Department of health

The provincial department should ensure that there is funding for pharmacist or pharmacist assistant posts to manage DSM in all PHC clinics, develop appropriate training programmes for the various components of DSM for the human resource development of professional nurses and assess that all PHC clinics maintain the status of an ideal clinic as the infrastructure of the PHC clinic should meet the set standards and the pharmaceutical services are taken into cognisance.

6.16. Ekurhuleni district health office

The district should in a progressive manner, set aside on annual basis funds to reduce the number of vacant posts for pharmacists or pharmacist assistants for all PHC clinics. whilst the process of filling posts is in progress, the nurses assigned responsibility for DSM should be supported through a comprehensive in-service training programmes for professional nurses on DSM SOP and followed up with monitoring and evaluation for adherence with the DSM SOP.

6.17. Health facility managers

Nursing service and facility managers should motivate for the employment of at least one pharmacist assistant to manage drug supply in the PHC clinic. Monthly supervision visit should check whether the pharmacist assistants have been employed or a designated professional nurse assigned for DSM allocated on rotation to manage the medicine room for an uninterrupted period of three months and release them from their duties of consulting the clients or patients during this period. The assigned professional nurses should be provided with support where challenges are identified.

Further as motivation for proper DSM, the managers should promote effective DSM through service excellence awards for the best managed medicine room in PHC clinics.

6.18. Drug supply management (DSM) designated professional nurses

The professional nurses should develop a clinic peer support system for DSM including creation of a schedule for medicine room management DSM including stock ordering and receiving, as per schedule and attendance of DSM in-service training and feedback.

6.19. Further research

The researcher recommends that future research be conducted on the experiences of pharmacist assistants placed at PHC facilities as well as development of drug supply management models for PHC settings.

7. Conclusion

The article presented the challenges experienced by professional nurses and demonstrated the importance of implementing recommendations towards effective DSM and compliance with the approved SOP.

Nurses are not coping with patient consultations and the responsibility for drug supply management. In order to meet the challenges related to drug supply management, pharmacist assistants should be employed to manage drug supply at primary healthcare facilities in order to promote adherence to the standard operation procedure for drug supply management.

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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Authors contributions

The EMD drafted the article, SMZ reviewed and edited the article.

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