

# Nursing Recommendations for the Management of HIV and Hypertension in a rural Primary Health Care Setting, Eastern Cape, South Africa

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## Abstract

South Africa has an increased number of people living with the human immunodeficiency virus (PLWH). In addition, older PLWH are prone to developing non-communicable diseases (NCDs) as co-morbid illnesses, in particular hypertension. South Africa is experiencing a dual burden of care, that being the co-morbidity of HIV and hypertension. The integration of HIV and non-communicable disease management is needed towards a synergised and comprehensive approach within primary health care (PHC) settings. This article presents nursing recommendations yielded by a descriptive phenomenological study on the management of HIV and hypertension in a rural PHC context. A qualitative research approach, using Husserl's descriptive phenomenology, was employed, and data were gathered using semi-structured interviews. The interviews were conducted by the first author at Sakhisizwe sub-district clinics, Eastern Cape. Purposive sampling was used to select nine participants. Giorgi's phenomenological steps underpinned data analysis. Six nursing recommendations were developed to support professional nurses in the management of the co-morbidity of HIV and hypertension: 1) disease-specific health education as opposed to generic health education; 2) utilisation of existing programmes on the integration and management of chronic illnesses; 3) creating social support platforms or spaces; 4) referral pathways; 5) surveillance and monitoring; and 6) management of disease-related stigma. Professional nurses working in PHC clinics have several guidelines to manage chronic illnesses. However, there are limited nursing recommendations on how to manage the co-morbidity of HIV and hypertension. This study focused on a smaller sample of nine participants, in one sub-district and in one district.



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**Keywords:** human immunodeficiency virus (HIV); hypertension; nursing recommendations; primary health care; nurses

## Introduction

Hypertension is a non-communicable disease (NCD) and is often referred to as a “silent killer” since patients do not show warnings signs and remain unaware of having the disease (Dalana 2018, 1). Hypertension has been highlighted as a major risk factor for cardiovascular diseases and cause of mortality in the world (GBD 2013 Risk Factors Collaborators 2015, 2287). Globally, approximately 1.13 billion people are hypertensive, and the majority are in low and middle-income countries (World Health Organisation 2019). NCDs are reported to be responsible for 41 million annual deaths, which is about 71% of the world’s mortality (World Health Organisation 2018). While hypertension is a globally rising challenge, the human immunodeficiency virus (HIV) is also reported to be a global health burden. In 2018 global reports, approximately 37.9 million people were living with HIV (United Nations Joint Programme on HIV/AIDS 2018, 1). South Africa is encountering a dual burden of care. This is supported by a South African study that highlights the dual burden of HIV and hypertension experienced by people (Ameh et al. 2017, 472).

With HIV and hypertension both being global concerns, an interaction between these two chronic illnesses has been reported. People living with HIV (PLWH) have been reported to be living with hypertension as a co-morbid illness (Lloyd-Sherlock, Ebrahim, and Grosskurth 2014, 8). Particularly in South Africa, this link has been reported to be experienced in the form of a change in the health profile, which is marked by a dual burden of care for HIV and hypertension. Despite this co-morbidity experienced, South Africa has the highest number of PLWH, and recent evidence shows that 7.97 million people are HIV positive (Statistics South Africa 2019, 6). PLWH are prone to hypertension as a co-morbid illness. Sub-Saharan studies conducted have also highlighted the dual burden of care in PLWH and hypertension (Bosho et al. 2018, 10; Fahme, Bloomfield, and Peck 2018, 44; Raposo et al. 2017, 598).

Munn et al. (2018, 2) report that a scoping review may be conducted to recognise the type of evidence available in nursing and to identify knowledge gaps in the literature. The findings of a scoping review on South African studies, conducted between 2015–2019, reported that hypertension in PLWH is especially prevalent in the older population above 40 years; being one of the causes of mortality (Bigna et al. 2017, 4; Hyle et al. 2019, 7; Mutemwa et al. 2018, 1; Nguyen et al. 2015, 3). In addition, the co-morbidity is predisposed by an unhealthy diet, a sedentary lifestyle, increased alcohol consumption and smoking (Oni and Unwin 2015, 390). Furthermore, it has been highlighted that being married and having an increased number of children were associated with hypertension in PLWH and that PLWH started experiencing hypertension after being started on Highly Active Antiretroviral Therapy [HAART] (Drain et al. 2019, 1). In contrast to this, another South African study on hypertension and diabetes control along the HIV care cascade in rural South Africa highlighted that

PLWH with a suppressed viral load of undetectable limits in their study were aware of their hypertension diagnosis and had lower blood pressure as compared to HIV negative patients (Manne-Goehler et al. 2019, 1).

Moreover, when it comes to the management of the co-morbidity of HIV and hypertension in South Africa, there is a paucity of research. In addition, there are limited nursing recommendations on how the patients should be managed, especially in the PHC setting, where the majority of patients are screened, diagnosed, and managed. This suggests a lack of integration of HIV and hypertension in the PHC. The South African National Department of Health (2019, 5) issued antiretroviral therapy (ART) guidelines for the management of HIV, which stipulate that adults should be screened for NCDs through the checking of blood pressure (BP) and urinalysis to check for proteins. The screening is done to identify and manage co-morbid diseases identified in PLWH. However, there is no clear recommendation of how the co-morbidity should be managed, like how it is done with tuberculosis (TB)/HIV co-infection, and the professional nurses are pointed to other guidelines for the management of NCDs in PLWH.

Hanley (2019, 274) acknowledges the Integrated Chronic Disease Management Model (ICDM) in South Africa but also states that the model only deals with all chronic illnesses, not just HIV and NCD integration. In addition, the application of ICDM had a minimal effect on the clinical management of PLWH and hypertension, indicating a need for the integration of HIV and hypertension management (Ameh et al. 2017, 477). Furthermore, it was recommended that in improving HIV and NCD integration in the PHC, hypertension screening should be done before HIV diagnosis and repeated after the diagnosis in PLWH (Drain et al. 2019, 12). This was because baseline hypertension readings in PLWH, who were untreated, was low as compared to HIV negative people. The increase of communicable and NCDs in South Africa causes a challenge for PHC professional nurses due to the lack of recommendations available. Through a qualitative study, this paper presents the nursing recommendations yielded on the management of HIV and hypertension by professional nurses in the rural PHC context.

## Methodology

### Research Design

Qualitative research design underpinned this study, and amongst its methods, Husserl's descriptive phenomenology was used in exploring the lived experiences of PLWH and hypertension. While the aspect of the lived experiences of PLWH and hypertension has been presented (Tokwe and Naidoo 2020), this paper is presenting the nursing recommendations. The nursing recommendations were yielded from the exhaustive descriptions of the experiences of PLWH and hypertension that enabled the researchers to develop the recommendations. The emergent themes and exhaustive descriptions depicting the essence of the lived experience of living with HIV and hypertension guided the recommendations on the management of HIV and hypertension. Being

embedded in the research data, each theme was assessed in terms of recommendations that could be yielded from the theme towards the PHC nurses' role in the management of HIV and hypertension.

### **Study Setting**

This study was conducted at selected public PHC clinics of the Sakhisizwe sub-district, which is situated in the Chris Hani health district of the Eastern Cape Province, South Africa. These clinics are the first point of care, which serves the majority of the population, especially in the rural areas. An estimated number of more than 500 patients per clinic are seen in the rural clinics for maternal child and women's health (MCWH), HIV/AIDS, sexually transmitted infections (STI), TB (HAST), non-communicable diseases and minor ailments.

### **Population and Sampling**

The study population were people living with HIV and hypertension. Purposive sampling guided the selection of the participants. The inclusion criteria were: 1) people over the age of 40 years; 2) people with a diagnosis of HIV; and 3) hypertension for more than one year and receiving HAART and hypertensive medication for more than one year. The exclusion criteria were: 1) people living with the multi-morbidity of HIV, hypertension, and one other chronic condition, e.g., diabetes mellitus, hypertension and HIV; 2) newly diagnosed clients for both HIV and hypertension (less than one year); and 3) visitors (once-off clients) attending the sampled clinic. The sample size was nine participants; four males and five females. Data saturation was reached in the ninth participant. This study only focused on a smaller sample of nine participants, in one sub-district and in one district

### **Data Gathering**

The field work for this study was done between November 2018 to January 2019. The information for participation in the study was provided to participants prior to the commencement of data collection. Semi-structured interviews were used to draw data from the participants, and field notes were used to record the verbal and non-verbal cues of the participants during the interviews. A semi-structured interview schedule was designed, and probes were used to encourage the participants to dwell more on their descriptions. The central question asked was: Can you please share your experiences of living with both HIV and hypertension, especially in terms of how you manage the disease and treatment? The interviews were conducted in *Isixhosa* by the first author and were translated into English and transcribed verbatim. An audio recorder was used. Interviews took a minimum of 45 minutes each, and consent was obtained to record the participants. The interviews were conducted at the procedure rooms of the clinics where the participants attended because the rooms facilitated confidentiality.

## **Data Analysis**

Data were analysed using Giorgi's phenomenological steps to enable the emergence of the themes. Five steps were followed and applied. The steps involved: 1) reading the transcripts repeatedly to make sense of them; 2) re-reading the same disclosure in a purposeful manner to delineate each time a transition in meaning occurs; 3) the meaningful units/themes were examined and also those not related, and unique themes were noted; 4) formulation of the themes or essence; and 5) common experience for the phenomenon was identified, and relevant literature was used to support participants' information. In the fourth step, the four themes and their 14 sub-themes emerged (Pallikkathayil and Morgan 1991, 197). The themes were: 1) overcoming illness-related stigma; 2) sources of support; 3) self-love: taking ownership of the diseases; and 4) creating transforming behaviours and self-care practices. These themes allowed the researchers to link the data in developing nursing recommendations. Chenitz and Swanson (1986, 13) argue that in conveying the trustworthiness of recommendations that emerge from research findings, the evidence generated from research must have fittingness, which suggests that themes and recommendations must be the ones that are indicated by the data and are readily applicable to the data.

## **Trustworthiness**

The authors maintained verification of qualitative rigour by means of Lincoln and Guba's (1985) model of trustworthiness, which is made up of the criteria of credibility, dependability, confirmability, transferability and authenticity (Brink, Van der Walt, and Van Rensburg 2018, 158).

## **Ethical Considerations**

The researchers obtained permission to conduct the study at Nelson Mandela University (NMU) research ethics committee [H18-HEA-NUR-007]. This was followed by ethical clearance from the Eastern Cape Department of Health (EC\_201810\_002). The researchers also obtained permission from the district manager at Chris Hani and the sub-district manager at the Sakhisizwe sub-district. Recruitment started by providing the participants with the information sheet explaining all the contents of the study when participants came for their monthly chronic medication. Informed consent was obtained to participate in the study and to record the responses. Confidentiality and anonymity were maintained.

## **Results**

The recommendations aim to support professional nurses in the management of HIV and hypertension in the rural PHC setting. The recommendations are a portion of a larger qualitative study that explored the lived experiences of people living with HIV and hypertension in the Eastern Cape, South Africa (Tokwe and Naidoo 2020).

The study yielded four themes and 14 sub-themes on the lived experiences of PLWH and hypertension. The researchers utilised the knowledge from the qualitative study to develop recommendations for nursing practice that can be used to assist professional nurses in the management of HIV and hypertension in a rural PHC setting. Table 1 highlights the themes and sub-themes that emerged from the qualitative study.

**Table 1:** Themes and sub-themes

Themes	Sub-themes
Overcoming illness-related stigma	Anticipated stigma Internal stigma External stigma
Sources of support	Family support Peer support Health practitioners' support
Self-love: Taking ownership of the diseases	Self-acceptance Self-motivation
Creating transforming behaviours and self-care practices	Making a plan Coping with medication Access to treatment Grading of diseases Pill burden Unhealthy addictions

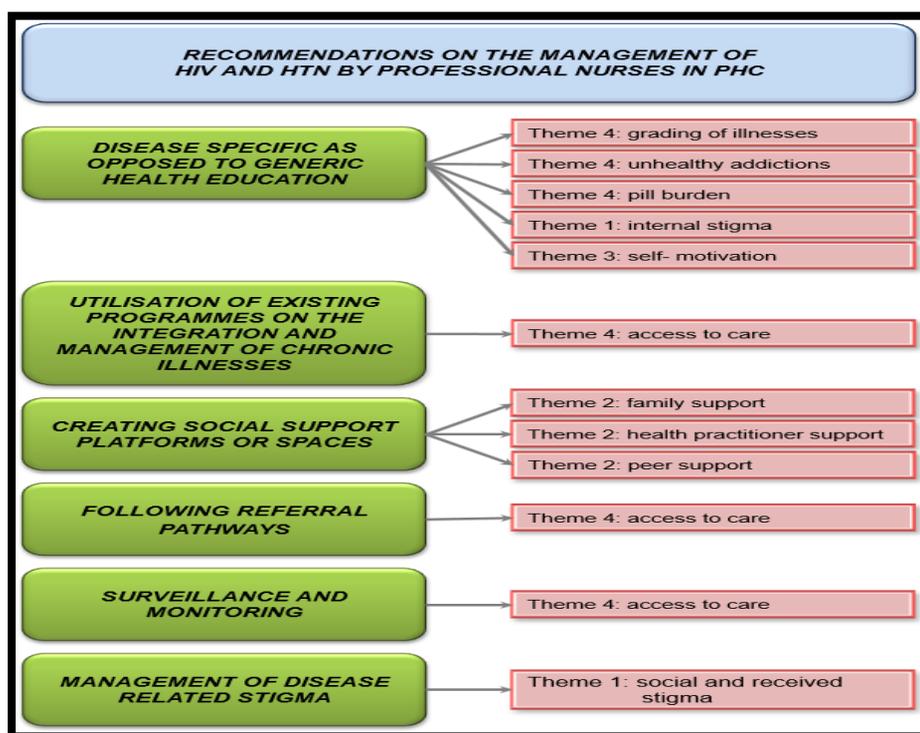
The nursing recommendations developed were underpinned on the themes that emerged from the main study, namely: 1) disease-specific education as opposed to generic health education; 2) utilisation of existing programmes on the integration and management of chronic illnesses; 3) creating social support platforms or spaces; 4) referral pathways; 5) surveillance and monitoring; and 6) management of disease-related stigma.

### **Process that Guided the Formulation of Recommendations**

A recommendation in research refers to a crucial suggestion concerning the best course of action in a certain situation, whose aim is to provide a guide that will resolve a certain situation and result in a favourable or beneficial outcome. In addition, the recommendation should be based on the data from research (Copland 2016). The recommendations for the management of HIV and hypertension by professional nurses were generated by focusing on the lived experiences as described by the participants living with HIV and hypertension.

A study conducted by Chenitz and Swanson (1986, 13), in conveying the trustworthiness of recommendations that emerge from research findings, argued that the evidence generated from research must have: 1) fittingness; 2) understanding of ability; and 3) generality (being able to be transferred). Cohen and Crabtree (2008, 334) argue that qualitative research findings should be connected, understandable and clear, and

the relationship between the data and the interpretation should be coherent. The emergent themes guided the recommendations on the management of HIV and hypertension. Being embedded in the research data, each recommendation was linked to the themes of the study and aligned to the PHC nurses' role in the management of HIV and hypertension. Figure 1 reflects the recommendations that were formulated and the themes each recommendation is based on.



**Figure 1:** Recommendations for nursing practice

Source: Tokwe 2019, 109

## Discussion

The current study discusses nursing recommendations to support professional nurses in the management of HIV and hypertension in the rural PHC context. The recommendations developed have emerged from the themes of the study and literature that was reviewed to support the recommendations. Krauskopf et al. (2013, 2) argue that hypertension is a common co-morbid illness in PLWH. A study conducted highlighted that hypertension was highly prevalent among PLWH on HAART, and the prevalence ranged from 2.0 to 50.2% in sub-Saharan Africa (Masenga et al. 2019, 1). Temu et al. (2017, 4) highlighted the grading of chronic illnesses in people living with this co-morbidity. Hypertension was regarded as more serious than HIV. Similarly, another

study revealed that PLHW and an NCD placed and practised adherence on HAART as compared to other co-morbid illnesses, indicating that HIV was more serious than other chronic co-morbid NCDs (Monroe et al. 2017, 205). The findings were similar to the qualitative study conducted by the researchers, hence the development of recommendation one.

### **Recommendation One: Disease-specific Health Education as opposed to Generic Health Education**

It is recommended that PHC nurses should reinforce disease-specific health education to PLWH and hypertension. This recommendation further specifies that often health education is provided in a very generic manner, while the findings of this study highlighted the need for patients living with the co-morbidity of HIV and hypertension to receive disease-specific health education; thus, the need for tailoring health education that is specific to the patients' needs and disease profile.

The study further showed that this perceived grading of illnesses stemmed from the attention the diseases were given by their healthcare provider. In many instances, HIV management was given greater importance in terms of medication compliance or symptom screening by the PHC nurse. Thus, this recommendation requires PHC nurses to place both chronic illnesses on the same level rather than grading them to ensure that the self-management of both HIV and hypertension as chronic illnesses is dealt with at the same level of priority and effort in terms of medication and disease management.

The PLWH were reported to be engaging in alcohol consumption and smoking while on HAART (Azia, Mukumbang, and Van Wyk 2016, 5). These findings were consistent with those that emerged in the study. It is recommended that the PHC nurses should educate the PLWH and hypertension on the proper lifestyle modification to ensure viral load suppression and a healthy lifestyle, such as reducing alcohol intake and limiting smoking.

A study by Temu et al. (2017, 5) reported that patients living with HIV and hypertension verbalised that polypharmacy was a problem due to the number of pills that one had to take for living with HIV and hypertension. It is recommended that the PHC nurses should standardise the education to the patients on adherence to hypertension and HAART medication to avoid additional medication that can cause polypharmacy by developing an adherence plan at the point of diagnosis.

A study conducted by Albright and Fair (2018, 6) revealed how PLWH had developed self-acceptance of their chronic illness of HIV through interaction with other people with HIV and by coming to terms with their diagnosis as a part of their lives. It is recommended that PHC nurses should educate PLWH and hypertension about the importance of self-love and self-acceptance to ensure that internalised stigma is reduced. This can be done by on-going counselling to the patients about the chronic

nature of the illnesses and that being HIV positive and hypertensive is not the end of the world.

Self-motivation was reported to facilitate adherence in the study that was conducted. A study conducted revealed that despite the difficulty of living with HIV, self-motivation in taking treatment played an important role in the management of a chronic illness (Russel et al. 2016, 6). It is recommended that the PHC nurses should educate the PLWH and hypertension about the importance of remaining motivated in taking medication for hypertension in the morning and HIV at night. This will ensure that the patients living with a co-morbidity adhere to treatment and their viral loads and blood pressure readings are normal, and suppression is achieved.

### **Recommendation Two: Utilisation of Existing programmes on the Integration and Management of Chronic Illnesses**

The findings of this study revealed that the PLWH and hypertension experienced a challenge of access to care due to poor road infrastructure, long distances to the clinic and long waiting hours at the clinic. The study focused on the rural PHC context and therefore recommended the utilisation of existing programmes on the integration and management of chronic illnesses. The programmes include centralised chronic medication dispensation and distribution (CCMDD), spaced fast-lane appointment systems and adherence clubs.

According to Katende-Kyenda (2018, 1011), the CCMDD came into play in 2014 in the national health insurance (NHI) districts of South Africa. Doward et al. (2020, 2) argue that a CCMDD programme allows patients living with chronic illnesses to have access to their medication without having to attend a clinic. It is recommended that the PHC nurses should register stabilised PLWH and hypertension on treatment to spaced fast-lane appointments that give a two-months' supply of chronic treatment and six-monthly prescriptions, such as the utilisation of CCMDD programmes and adherence clubs. These programmes will ensure that PLWH and hypertension (who are stable on their treatment) do not have to travel long distances to the clinics and wait long hours before being attended by professional nurses.

On CCMDD, all the stable clients will be seen by professional nurses after six months to monitor their blood pressure, creatinine levels, and viral load, to evaluate whether these readings are satisfactory after six months. Their chronic medication prescription will be signed for six months to ensure that after every two months, they receive messages to collect their medication either at the clinic, churches, or local halls. The role of the PHC nurse would be to ensure that the patients receive their medication timeously by delivering the medication parcels to the pick-up points that are most convenient to patients.

The CCMDD programme allows many patients to have easy access to their chronic medication through different pick-up points in the community (Doward et al. 2020, 2).

This study recommends that the PHC nurses should establish the nearest pick-up points for the CCMDD clients, such as churches in the patients' catchment areas, so that they can avoid travelling long distances for collecting their medications from the clinics. Multiple pick-up points will ensure that the patients do not have to go to the clinic to collect their medication every two months, but medication can either be dropped off at their local shops, churches or even pharmacies to reduce the waiting time and walking long distances to the clinics.

A spaced, fast-lane appointment is a system in the facilities of PHC where all the patients that are stable are given two months' treatment supply instead of just one month. This is implemented when an improvement in the patient's chronic condition has been observed by a professional nurse (South African National Department of Health 2016, 42). This study recommends that PLWH and hypertension should be seen after two months by professional nurses if they remain adherent to and stable on their medication. The medication that will be issued will last for two months.

The adherence club is formulated by a professional nurse for all stable clients to ensure that they meet and have the same cohort for taking medication and checking blood pressure (Tsondai et al. 2017, 51). With this programme, the PHC nurse can group the patients according to their catchment areas so that they can be seen after six months in their area.

### **Recommendation Three: Creating Social Support Platforms or Spaces**

A South African study conducted by Hill et al. (2015, 5), which explored the role of social support among PLWH, found that family support was reported to play a huge role in caring for PLWH. Furthermore, a study conducted in Nigeria by Osamor (2015, 31) highlighted that social support played a role in treatment adherence, such that 74.8% of people living with hypertension reported a role played by family members. It is recommended that PHC nurses should ensure that PLWH and hypertension have the proper support in their homes and in their surroundings to facilitate treatment intake. This can be done by PHC nurses ensuring that the care is not individualised by asking relatives to support PLWH and hypertension.

It is recommended that the PHC nurses should strengthen their counselling role in PLWH and hypertension to improve compliance to their treatment through on-going counselling, support and displaying a caring attitude to all PLWH and hypertension. This study recommends that the PHC nurses should improve their attitudes when caring for PLWH and hypertension so that they can be motivated, ask for health-related advice and follow instructions given by the nurses.

Flickinger et al. (2017, 3087) argue that online support enables patients to acquire support about coping with an illness, especially due to the convenience of communicating in different settings. It was reported that an online social support

platform was highly regarded by patients, especially those who desire to remain anonymous about living with HIV.

It is recommended that the PHC nurses should utilise mobile technology such as WhatsApp support for PLWH and hypertension. The patients should be added to the support group by a professional nurse, using pseudonyms to facilitate anonymous support amongst the patients. This will also empower patients who are still undergoing the process of dealing with internal stigma and disclosure. This is of importance, especially for those living with HIV, to be connected within an online support space. In addition—given the number of mobile devices available in the country and coverage thereof—the use of mobile support groups, such as WhatsApp or bulk short message service (SMS), will enable nurses to network with patients and for patients to connect with one another.

It is recommended that the PHC nurses should encourage PLWH and hypertension to disclose their status to their significant others. This will ensure that they are supported in terms of their emotional well-being, which will also facilitate adherence to treatment. Disclosure of the patients to their families and/or partners will facilitate support in terms of reminding them to take medication on time.

It is recommended that the PHC nurses should allow PLWH and hypertension to support each other in the community when one of them is not adhering to treatment. This can be done by creating support groups in the patients' catchment areas that will ensure that all patients on treatment support each other in terms of the management of chronic illnesses.

It is recommended that PHC nurses should organise community-based family support groups or information sessions that are led by the PHC nurses. In the groups, the PHC nurses can routinely engage and find out if a client has family members that have HIV/hypertension. Nurses can then utilise their consultation skills to promote mechanisms of how the family member can be supported.

For lifestyle modification, this study recommends that the PHC nurses can encourage “symptom management mentoring” that is facilitated by the PHC nurses. In this mentoring, PLWH and hypertension can be supported to cope with the symptoms they experience rather than use unhealthy habits to cope with the co-morbidity.

#### **Recommendation Four: Referral Pathways**

It is recommended that the PHC nurses should arrange with local hospitals to provide the patients with their chronic medication when they are unable to go to their clinics due to changes in climate (such as rain) that render them unable to attend their nearby clinic. This will facilitate adherence to treatment despite the challenges of accessing nearby clinics.

The study findings revealed that PLWH and hypertension struggled to attend clinics due to access to care that was not within reach. It is recommended that the PHC nurses collaborate with nearby hospitals close to the patients' catchment areas so that they can supply medication to them when they are unable to attend the clinics due to different barriers to access being experienced.

### **Recommendation Five: Recommendation on Surveillance and Monitoring**

It is recommended that surveillance and monitoring are improved in terms of the PHC nurse developing clear strategies of how this cohort of patients will be regularly monitored outside of their PHC visit, which is usually focused on routine screening and medication receipt. In this recommendation, the PHC nurses can collaborate with the ward-based outreach teams (WBOT) and even go to areas out of reach of the facility. This will ensure that during outreach programmes, the PLWH and hypertension who are on treatment can be monitored in their catchment areas for blood pressure and viral load instead of going to the clinics. The PHC nurses can create rosters as to when each catchment area will be visited so that the community health workers (CHWs) can mobilise to ensure that all eligible patients are seen.

### **Recommendation Six: Recommendation on the Management of Disease-related Stigma**

PLWH are more prone to experience stigma and discrimination in the community (Avert 2019). In addition, educating people in the community about HIV is essential and assists in reducing stigma and discrimination (Dahlui et al. 2015, 9). It is recommended that the PHC nurses can organise workshops for the communities within the areas where the clinics are located. In the workshops, the community and the family members of the PLWH and hypertension can be educated about the chronic nature of HIV and hypertension to minimise stigma.

This study only focused on a smaller sample of nine participants in one sub-district and in one district. Therefore, the study findings reflect the lived experiences of the patients of the selected setting, and recommendations developed are based on the data from the sample.

## **Conclusion**

This article provides insight into the six recommendations to support professional nurses working in the PHC setting to manage patients living with the co-morbidity of HIV and hypertension in the rural clinics of the Eastern Cape. There is a rise in the number of PLWH who are ageing with HIV. There is a greater need for integrating HIV care and management of NCDs such as hypertension. The role of PHC nurses is crucial in supporting and expanding the synergised care provided to PLWH, and it provides an opportunity for effective delivery of holistic care. These recommendations provide a tailored response for PHC nurses to support the multidimensional aspects of HIV and NCDs.

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