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## **An investigation into the new graduate nurses' care and management of patients with HIV and AIDS in two provinces of South Africa**

RUGIRA R. MARIE MODESTE AND OLUYINKA ADEJUMO

*School of Nursing, University of the Western Cape, Robert Sobukwe Road, Bellville, South Africa.*

*E-mail: rmodeste@uwc.ac.za*

### **Abstract**

The Human Immunodeficiency (HIV) epidemic has been around for more than three decades and South Africa has more people living with HIV infection than any other country in Africa. Since nurses are the backbone of the healthcare system, they are the most involved in providing healthcare services to people living with HIV. For this reason, their training is expected to equip and enable them to function as soon as they have graduated, congruent to the expectations of the employers. This research investigates how new graduate nurses provide care and management for HIV and AIDS patients in South Africa while emphasising the reported weaknesses in this care. Individual interviews were conducted with 17 participants who included recent graduates, nurse educators, nurses in practice, members of the nursing governing body, and persons living with HIV. The data were analysed by using a deductive thematic content analysis. Shortcomings were reported relating to aspects required by nurses for HIV and AIDS care and management; including areas such as knowledge, holistic safe practice, and policy. The identified shortcomings should be included in the nurses' pre-service training with the purpose of comprehensively preparing graduates to provide effective care and management for HIV patients and to respond to HIV/AIDS healthcare needs which is a national priority.

**Keywords:** Pre-service, recent graduate, curriculum, competency.

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### **Introduction**

In South Africa, as in many other countries around the world, healthcare services are provided by various health professionals, while nurses form the backbone of any healthcare system (Jooste & Jasper, 2012). When providing healthcare, it is crucial that nurses are well equipped to deliver care congruent to the health profile of the community that they serve (Wilson, Whitaker & Whitford, 2012; South African Department of Health [SADoH], 2013). In South Africa, the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) contribute greatly to the burden of disease, with about 6.8

million people infected with HIV by the end of 2014 from 6.3 million reported by the end of 2013 (Pandie, van der Plas, Maartens & Mendelson, 2012; UNAIDS, 2014a, 2015). While still in training, nurses develop competencies that will allow them to practise safely and effectively. However, Berkow, Virkstis, Stewart and Conway (2009) assert that, upon graduation, the employers' expectation is often not met by the new graduates, with reports that only about 25% of nurse managers are satisfied with the performance of the new graduates in their work environment.

In South Africa, the training of professional nurses is done at colleges and universities and is presented as a comprehensive four-year programme. At the end of the programme, the nurse graduates are regarded as general nurses with community, mental health, and midwifery qualifications. This qualification allows the newly graduated nurse to work in a variety of clinical settings, such as hospitals, a primary health care centres, and clinics.

With over 6 million people living with HIV in the country, the newly graduated nurses need to be able to provide the much needed care and management to those living with HIV and AIDS, in accordance with national health imperatives. The South African government has indicated that HIV is one of its priorities with plans and aims to ensure that, by 2011, an increase to 80% in the number of people initiated and managed on antiretroviral therapy (ART) by nurses is achieved (SADoH, 2007, 2010). The 2012-2016 National Strategic Plan (NSP) aims at ensuring that 80% of those patients who need ART are receiving it and that at least 70% of them must still be alive and maintained on treatment (South African National AIDS Council: SANAC, 2011). Furthermore, the 2012-2016 NSP seeks to ensure that new HIV and TB infections, as well as AIDS-related deaths, are halved; that HIV-related stigma is reduced, and that legal frameworks are being used to protect the rights of people living with HIV (SANAC, 2011). In addition, Intervention 3.1.4 of the 2012-2016 NSP requires earliest enrolment, as well as access to appropriate HIV and TB treatment for patients who are diagnosed with HIV and TB (SANAC, 2011). These targets are in line with the UNAIDS (2014b) 90-90-90-target that strives to ensure that by 2020, 90% of people infected with HIV are aware of their HIV status, 90% of those people diagnosed with HIV are receiving sustained ART, and viral suppression is achieved for 90% of those on ART. For all these targets to be achieved, nurses who form the backbone of healthcare services in the country need to be well trained to provide the required care and management for HIV and AIDS patients. The current practice is that nurses must attend an in-service training course in HIV counselling and testing, as well as ART initiation and monitoring. However, many nursing staff members do not attend in-service training. Reliance on in-service training has been documented to be appropriate as an emergency measure (Renggli et al., 2008). Considering the state of the HIV epidemic, more sustainable measures are needed, such as developing HIV- and AIDS-related

nursing competencies and integrating them into the four-year undergraduate nursing programme.

It has been noted that in sub-Saharan Africa, nurses are actively involved in many tasks relating to the provision of healthcare services for those people infected with HIV (Zuber, McCarthy, Verani, Msidi & Johnson, 2014). However, it is not clear how nurses are prepared during their pre-service training to effectively contribute to providing necessary care and management related to HIV and AIDS in order to meet the target set in the fight against the epidemic (Zuber *et al.*, 2014). For example, aspects such as nurse-initiated and managed ART (NIMART) have been noted as not being integrated into the pre-service nursing education programme. In the South African context, one would expect that training would prepare nurses to provide care and management appropriately, safely, and effectively to patients infected with HIV (Zuber *et al.*, 2014). This deficit has been documented, noting that nurses are not adequately prepared for the required HIV and AIDS care and management expected by employers (Knebel, Puttkammer, Demes, Devirois & Prismo, 2008).

Presented in this research report are the limitations of newly graduated nurses to provide care and management to people living with HIV and AIDS. The research is part of a more comprehensive study that developed a model for integrating HIV and AIDS-related competencies into the four-year nursing programme at a university in South Africa.

## **Methodology**

The study adopted a qualitative approach to explore the perceived limitations of nurses to provide care and manage people living with HIV and AIDS. Semi-structured individual interviews of 30 to 45 minutes were conducted with 17 participants. They included five nurse educators at two universities in South Africa, five nurses practising at a hospital in South Africa, four recent nurse graduates from a university in South Africa, a person living with HIV, and two people who were part of the nursing governing body.

Snowball sampling was applied to recruit recent graduates. As indicated by Maree (2007), this involved identifying one recent graduate from the university included in the study, and she was asked to identify other recent graduates who had completed the same academic year with her. This allowed identification and inclusion in the study of recent graduates who would have been difficult to access as they had been placed in different work places. A purposive sampling strategy was used to recruit the other categories of participants. The nurse educators were recruited in two provinces of South Africa (Western Cape and Free State) while the other categories of participants were drawn from one province. Of the 17 participants, seven were 46 years and older, while another 10

were less than 46 years old. There was only one male participant in the study, and this could be explained by the dominance of women in the nursing profession. Of the 16 participants who were nurses, the duration in nursing practice was one year for the four recent nurse graduates while, for the rest, it ranged between five and 33 years.

The nurses who participated in the study reported having various specialities, with two indicating more than one speciality. The reported specialities included midwifery (n=2), medical nursing (n=5), paediatrics (n=2), psychiatric nursing (n=1), community (n=2), education (n=4), HIV (n=1), and leadership (n=1). The person living with HIV who participated in the study was a prevention and treatment leader at an organisation that provides support and care to people living with HIV.

Ethics clearance and permission were obtained from the institutions where participants were recruited, and all participants signed an informed consent form after receiving detailed information about the study. The nurse educators were recruited from two universities in South Africa that offer a nursing degree, while practising nurses were recruited from a hospital in the Western Cape. The recent graduates were recruited from the group of graduates from a university in South Africa. Every year, this university produces about 200 graduate nurses. Members of the nursing governing body were recruited from the members of the committees of the governing body, while the person living with HIV was recruited from an institution that provides support to people living with HIV in the community.

For the purpose of this study, a new graduate nurse was considered to be a nurse who has completed the undergraduate nursing degree and been in practice for a period of no more than two years. Ethical considerations were also taken into account, and participants were informed of their rights to participate or to withdraw from the study at any time. Anonymity and confidentiality were maintained, ensuring that support was available should any inconvenience be experienced during the data collection process. A thematic content analysis was applied to analyse the transcribed interviews; the themes were informed by the HIV- and AIDS-related competencies of newly graduated nurses in South Africa. Prolonged engagement, member checks, and a research audit were some of the strategies applied in the study to ensure trustworthiness of the data and findings.

## **Results and Discussion**

From the discussions during data collection, participants reported issues that newly graduated nurses struggled with concerning care and management of HIV and AIDS. These issues were important to keep in mind, since they indicated what was expected of a newly graduated nurse who needed to be included in

acquiring core competencies during training. Such limitations provided an idea of the current status, informing the way forward for integrating the newly developed HIV- and AIDS-related competencies into the undergraduate nursing programme.

The analysis of the qualitative data yielded five main themes.

### *Knowledge*

Participants indicated that newly graduated nurses had limited knowledge about the basic science required for the care and management of HIV and AIDS. The participants reported aspects, such as the pharmacological aspects of HIV and AIDS management, which included knowledge of medication, its side-effects, and interaction with other medication. Such limitation was illustrated by one registered nurse in practice (P3) when she stated: *“They know how to treat a patient, but the medication, they . . . like the side-effects, you don’t hear . . .”* and a recent graduate (P8) said: *“I’m not too well on the interaction with other medication”*.

This gap in knowledge was also reported by nurse educators who indicated: *“Their [new graduate nurses] weakness is with the pathophysiology of the disease and exactly what it does, what a person looks like and how to prevent HIV”* (P14), and another one said: *“They [new graduate nurses] don’t understand the spread of the disease, transmission of the disease”*. (P10)

In addition, the interpretation of blood results and their implication with regard to management decisions were noted as problematic. This is illustrated by one of the registered nurses in practice (P4): *“I think also it depends on the results. Sometimes doctor takes bloods for the liver function and then they change it or the treatment is being stopped, but you don’t know for what reason actually that it has been stopped.”*

With the decision to have nurses initiate and monitor patients on ART, these nurses should not only know the medication, but also how the different types of medication work, how ART interacts with other medication the patients are taking, as well as the possible ART side-effects. Furthermore, nurses need to understand the various investigations carried out and how the results will influence the management decisions to optimise patients’ outcomes.

The other shortcomings that were reported are related to the knowledge and understanding of HIV information and pathophysiology, limited awareness of universal precautions, and prevention. These shortcomings limited the new graduate nurses’ ability to link HIV with other infections that the patient living with HIV and AIDS may present with. Failure to link HIV with another infection

may result in the patient not receiving optimal care. The following excerpt from one of the nurses in practice illustrated how the limited knowledge of universal precautions frightened the newly graduated nurses: “. . . and I also think, from my perspective, point of view, is that some of them [recent graduates] are scared because why they are, how can you say, what's the word now? They are not fully aware of the do's and the don'ts, you see. How to wear protective gloves. Can I touch the person? Can I touch his urine? You know, stuff like that.” (P5)

#### *Holistic and safe practice*

Any weakness in knowledge undoubtedly will translate into practice. This observation was mentioned when participants identified the weakness in identifying side-effects of medication when either assessing a patient, or when providing management based on the stage the client is placed in, for example. Furthermore, the recent graduate nurses who participated in the study reported having problems with setting up drips and drawing blood, as well as the expectation that they should competently perform such activities in practice. The following statement from a recent graduate illustrated such a perception: “*Oh, with the drip, with the drip. That's the only thing that I feel that I should've had more training in. . .*”. (P8)

This weakness has far-reaching implications, since the incorrect practice of skills increases the risk of needle prick injuries. Avoiding applying a particular skill can put a client at risk, since the needed care can be delayed. Trying to establish whether they can manage may create discomfort for the client, as stated by the person living with HIV. Similar findings are noted by Dlamini et al. (2014), because recent graduates and professional nurses observe that new graduate nurses lack confidence and sometimes they are afraid to act during practice. Moreover, there were reports about shortcomings relating to the identification of symptoms that the people living with HIV and AIDS experienced. When symptoms were not promptly identified, more complications could occur. In addition to missing out on the opportunity to manage the symptom, patients may lose out on the information related to what they should do, and how the symptom relates to the health status of the patient. This was illustrated by the participant (P17) living with HIV: “*They need to like to know more about their symptoms, because most of the time they don't know the symptoms really. They don't know the symptoms.*” She continued: “. . . because some people, they go and they get blind, because the nurses didn't . . . they don't know how to identify the symptoms. . .”.

Part of providing holistic safe practice includes how one relates to the patient and demonstration of interpersonal skills, which were also reported as being problematic for the nurses. Participants reported uncertainty about how to support a patient living with HIV; some nurses still displayed a judgmental

attitude, as well as being uncomfortable when talking about HIV to patients and providing support to their families. The reports about negative attitudes were illustrated by one nurse educator: “. . . *some of them* [new graduate nurses], *they have a rather negative attitude towards HIV positive people.*” (P15)

Stereotypes were also mentioned during the interviews. One of the recently graduated nurses remembered being shocked when she saw a person living with HIV. The recently graduated nurse was confused, since the patient appeared ‘well-kept and educated’: “*To be honest, I think when people’s social background . . . that was, I don’t know, social background that someone was, you know, came in with that good qualification, knowledge, well presented and then when they do the test, the test came back positive. And then I wonder what happened. But then she was walking with this thing in her that she never told that [sic] anyone.*” (P8)

#### *Health education*

From the data, the ability to transfer information was indicated as a limitation with regard to health education. There is a need to use effective communication skills and cooperate with patients instead of giving them instructions. Giving feedback and reinforcing the information were some of the skills mentioned that student nurses needed to develop. This was illustrated by the interview with the person living with HIV and AIDS (P17): “. . . *sometimes when they give us an instruction they were like, it’s not like they’re advising you, they are not telling you, you need to do what, why aren’t you doing this? So, those kind of questions, they make you feel uncomfortable. . . . They just tell you it’s going to disappear. It’s not like it is explained. I think they need to explain to us about the symptoms.*” Effective health education includes providing patients living with HIV and AIDS with the correct information and advice, but nurses should also enhance the patients’ understanding and compliance by ensuring that the information is well explained.

#### *Interdisciplinary approach*

Despite the fact that the South African health system has adopted a primary healthcare approach, it emerged that there are limitations relating to referral systems and knowledge about the various resources that could be accessed by patients living with HIV and AIDS. This was illustrated by the comments of a person from the nursing governing body (P13): “*I think our referral is limited, because, you know, we don’t seem to, many of the nurses, they don’t [know] where to refer their patients.*” This limitation may affect the care and management of patients living with HIV and AIDS, since it may inhibit continuity of care.

### *Policies*

Competency in policies related to HIV and AIDS care and management was another shortcoming noted; this was illustrated by a person from the nursing governing body (P13) who said: *"I don't think nurses are always familiar [with] what's [sic] the policies coming from the Department of Health around the management of HIV/AIDS."*

Nurses are the ground-level implementers of most policies, guidelines, and regulations that relate to the care and management of HIV and AIDS. They are required to not only know the policies, but also to understand them and analyse them critically to ensure that the policies that are in place contribute to the wellbeing of the patients living with HIV and AIDS.

However, it was reported that sometimes the HIV- and AIDS-related policies were not available, as noted and illustrated in the following excerpt from one recent graduate:

*"That's [policies related to HIV and AIDS] part of what you're supposed to learn. How can you learn about HIV and AIDS and you don't even know what the policy or protocol is? Even when you visit some of these hospitals, some of the wards, they don't even know HIV and AIDS protocol and policy. So, yes. Policies need to be put in place, need to be taught anyway and learnt. And then, when you go to a facility to say, this is not happening, do you have a policy on HIV and AIDS? And if you don't, you know that they've changed this thing, then you go and get . . . maybe it's there in the hospital but not particularly in the ward."* (P6). Another recent graduate (P7) also stated: *"Oh, I'm not familiar with that [policies related to HIV and AIDS], not even in the hospital in the ward where I'm working. I never saw policy on HIV."*

Unavailability of policies relating to HIV and AIDS, as found in this study, is similar to what Richter *et al.* (2013) have reported. Since the science of caring and managing HIV and AIDS changes continuously, new policies are introduced to ensure that appropriate care is provided. This necessitates that nurses are not only familiar with the various policies relating to the care and management of HIV; but also need to contribute to policy development, understand policies, and correctly implement those policies (Richter *et al.*, 2013). Nurses' contribution is crucial, since they spend more time with the patients, and are at the forefront of policy implementation. They have more opportunities to identify potentials for improvement and factors that inhibit implementation. Unfortunately, nurses' contribution to HIV- and AIDS-related policies has been noted to be lacking in many countries (Phaladze, 2003; Evans & Ndirangu, 2009; Muller, 2010; Richter *et al.*, 2013; Williams, 2013). As noted by Shariff (2014), health policy



education needs to be included in the pre-service training curriculum of nurses; and this may stir nurses' interest in policy development activities.

The HIV epidemic is more severe in developing countries, accounting for millions of deaths annually. In the fight against this epidemic, the various health-care providers need to be trained to actively and effectively contribute to the management of the disease as soon as they complete their training. Literature indicates that graduate nurses are beginners who have to possess skills that are required in their practice and that they are expected to competently provide safe patient care (Greenwood, 2000; Wolff, Regan, Pesut & Black, 2010; Dlamini *et al.*, 2014). However, there have been reports about weaknesses in the newly graduated nurses regarding various aspects such as nursing skills, organisation and time management, patient assessment, and clinical decision making (Freeling & Parker, 2015). In South Africa – as in many other countries – nurses represent the bulk of healthcare providers. Their training should prepare them to be able to function effectively upon graduation (Wilson *et al.*, 2012). However, similar to what is reported in literature (Romyn *et al.*, 2009; Wolff *et al.*, 2010; Cummins & Muldoon, 2014; Dlamini *et al.*, 2014; Odland, Sneltvedt & Sörlie, 2014), the various participants in this study emphasised a number of limitations that newly graduated nurse graduates present with.

In this study, there have been reports related to lack of knowledge in some aspects such as symptoms, pharmacology, and pathophysiology related to HIV infection. Ruud, Srinivas and Toverud (2014) have noted similar deficiencies. Such lack of knowledge has the potential of negatively affecting the practice expected of nurses. As noted by Delobelle, Rawlinson, Ntuli, Malatsi *et al.* (2009); Mockiene, Suominen, Valimaki, Razbadauskas *et al.* (2011), and Cummins and Muldoon (2014), inadequate knowledge may result in less than optimal care being provided to people living with HIV. If nurses lack knowledge, their understanding of the patients' issues may be limited, with the result that missing important information during the assessment becomes highly possible. Similarly, nurses who have limited knowledge concerning medications and how they work, as well as their side-effects, will have difficulties providing appropriate care; in addition to providing health education; as well as monitoring and managing side effects. Such issues are also reported in the study by Mametja, Lekhuleni and Kgole (2013), where their participants observed that the lack of knowledge of medication and side effects might result in the inability to identify side effects. Ruud *et al.* (2014) also note in their study that patients are sometimes given instructions to miss the ARVs when food is unavailable; unnecessarily encouraging non-adherence, since ARV could be taken without food. Participants in this study reported weaknesses related to practice – any shortcomings in the provision of care may have a negative impact on the patient living with HIV. Similar reports of nurses' limited ability to provide HIV care have been reported by Ruud, Srinivas and Toverud (2012), who note that

uncertainty about how to handle side effects of ARV is linked to nurses' non-reporting of adverse side effects of ARVs.

In the present study, recent nurse graduates themselves reported inadequacies regarding basic nursing skills that are important for providing care and management to people living with HIV and AIDS. The most recurring issue was related to the setting up of drips, which was reiterated by a person living with HIV and AIDS. Difficulties with this specific skill for new nurse graduates were also identified in other studies (Dlamini *et al.*, 2014). As noted by Younger and Khan (2008), setting up a drip is one of the activities that nurses regularly perform. Mastering such competency is crucial, since it does not only increase patients' comfort, but also expedites the provision of care, as well as correct adoption of infection control measures. Nurses who struggle with taking blood and setting up drips may put patients at risk, especially when patients at the healthcare institution need fluid replacement. This is a common situation with patients with HIV, since symptoms relating to the gastrointestinal (GIT) system may cause excessive fluid loss due to diarrhoea; oral thrush, nausea, and vomiting often limit the patients' ability to take anything orally and intravenous fluid replacement become crucial (May, Gill, Church & Sutherland, 1993; Thompson, Lee, Clarke, Mills *et al.*, 2012). Furthermore, with the various opportunistic infections that may be experienced, patients could be admitted to hospital and need intravenous medication. Nurses need to be able to administer such medication, thus, underscoring the importance of ensuring that such competency is developed and maintained. Also of critical importance in the effective provision of care and management of HIV is the competency of providing health education, since the new nurse graduates need to be able to provide information when explaining the illness to the patients in terms of prevention, as well as health promotion that facilitates a healthy lifestyle and adherence. The ability to transfer information that the audience understands, instead of using difficult scientific terms, is an important aspect of health education competency.

Several authors have reported similar results concerning newly graduated nurses' weakness and lack of confidence when working with other healthcare providers (Boswell, Lowry & Wilhoit, 2004; Casey, Fink, Krugman & Propst, 2004; Fink, Krugman, Casey & Goode, 2008). Newly graduated nurses need to understand multidisciplinary team work and actively contribute to decisions about the patients' care, while ensuring continuity of care when patients leave the clinical settings. This will enhance the patients' wellbeing, since they are enabled to access the services and support on time, while keeping in their minds that managing patients with HIV requires a sustainable effort of care (Centers for Disease Control and Prevention, 2011). During their training, a number of factors can enhance and strengthen new nurse graduates' confidence in working with various health professionals, such as increasing the number of different

disciplines that they are able to work with, various team strategies, collaboration opportunities, and supportive relationships (Pfaff, Baxter, Jack & Ploeg, 2014).

### **Limitations of the study**

This study has a number of limitations. Firstly, the number of participants was small, and secondly, participants were asked to report on their own perceptions, which may not reflect the views of other nurse graduates who were not part of the study. Therefore, the present findings should be interpreted with these limitations in mind.

### **Recommendations**

Nurses' training provides access to the scientific knowledge and practical experience for student nurses that should enable them to provide quality health care upon graduation. Having identified the reported shortcomings in the newly graduated nurses' competencies in terms of HIV and AIDS care and management, this article recommends integration of HIV- and AIDS-related competencies into undergraduate nurses' training; special attention should be paid to the identified limitations on a continual basis to meet the everchanging demands of healthcare provision. Dean *et al.* (2014) point out that educators also need to ensure that, during training, nurses are well equipped to provide optimal care to those patients living with HIV. This could be achieved by students completing dedicated projects during their training with the aim of providing opportunities for them to cover all the required competencies while being exposed to the reality that they will encounter upon graduation. Furthermore, senior nurses in practice need to be mindful that new graduates are beginners in practice; consider the reported shortcomings of the newly graduated nurses; and ensure these weaknesses are attended to during the orientation period and in-service training. Additionally, as suggested by Clark and Holmes (2007), newly graduated nurses need support and supervision when they enter the workplace. A thorough survey of nurses' limitations with regard to HIV care and management will enrich the curriculum and strengthen the quality of nurse graduates who are able to meet the national health needs.

### **Conclusion**

Nurses' role in the fight against the HIV epidemic is undeniably important. Their ability to actively and effectively contribute to reducing the spread of HIV and maintaining the health of those patients who are infected with HIV depends on how they are trained and stay updated. This study highlighted reported limitations that new nurse graduates present with in relation to the required nurse competencies for HIV and AIDS patient care in South Africa. The reported weaknesses in these competencies of new nurse graduates have the potential to

limit their ability to provide the best care possible. As healthcare professionals involved in the education of nurses, this information is crucial, since it emphasises areas that need to be considered when training nurses. Addressing these areas would ensure that newly graduated nurses are properly equipped to enter the workplace and to provide appropriate care for health problems related to HIV and AIDS in their environment. Culyba, McGee and Weyer (2011) maintain that improvement in knowledge and skills provides opportunities for improved quality care. Effective provision of care and management of HIV requires nurses to be competent in providing holistic safe care while at the same time providing preventative health education and health promotion and being a contributing member of the multidisciplinary team. Appropriate training would also enable newly graduated nurses to implement HIV policies, as well as to contribute to its development.

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