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An evaluation of the adequacy of pharmaceutical services for the provision of antiretroviral treatment in primary health care clinics

Talitha Crowley[*], *Ethelwynn L. Stellenberg*[1]

Division of Nursing, Stellenbosch University, P.O. Box 19063, Tygerberg, 7500, South Africa

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ABSTRACT

Background: With the introduction of nurse-initiated and -managed antiretroviral therapy (NIMART), new challenges have emerged with regard to the prescribing and dispensing of ART by nurses. One of the key challenges is ensuring adequate pharmaceutical services at PHC clinics.

Objective: The objective of the study was to evaluate the adequacy of pharmaceutical services for the provision of ART in PHC clinics.

Method: A quantitative descriptive study was undertaken in 20 (43%) randomly selected, eligible clinics in the uMgungundlovu district of KwaZulu-Natal, South Africa.

Results: Clinics used allocated medicine rooms for storing medication, as there were no pharmacies. Problems identified were: insufficient storage space (50%; n = 10); inadequate security (40%; n = 8); poor air conditioning (20%; n = 4), and functional stock-outs of essential drugs (80%; n = 16). Professional nurses performed the tasks of managing drug supply and prescribing and dispensing medication as there were no pharmacists or pharmacist's assistants in these clinics.

Conclusion: Human resource constraints necessitate professional nurses to manage drug supplies and to prescribe and dispense medication in resource-constrained PHC clinics. Clear guidelines tailored for PHC are needed to assist nurses in maintaining pharmaceutical service standards when ART services are decentralised.

* Corresponding author. Tel.: +27 21 9389036, +27 069453993 (mobile).
E-mail addresses: tcrowley@sun.ac.za (T. Crowley), elstel@sun.ac.za (Ethelwynn L. Stellenberg).
[1] Tel.: +27 21 9389036, +27 829696574 (mobile).

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1. Introduction

1.1. Background

South Africa has one pharmacist per 4332 people compared to the minimum country average of one pharmacist per 2300 people recommended by the World Health Organization (WHO) (King & Fomundam, 2010). This has implications for the safe provision of chronic drug treatment, especially antiretroviral therapy (ART). The shortage of pharmacists in the public health sector in South Africa has led to pharmacists' assistants and nurses taking on drug supply management and dispensing duties to support the ART roll-out (Foster & McIntyre, 2012).

High-quality, effective health services depend on the timely employment of the right people with appropriate skills at the right time and place (Gilbert, 2013). Yet South Africa has a chronic shortage of trained health care workers, which is exacerbated by disparities between provinces and between the rural and urban sectors (Gilbert, 2013). Subsequently, strategies such as task shifting are welcomed as an alternative, innovative way to alleviate the burden of care in resource-constrained settings (Callaghan, Ford, & Schneider, 2010).

Task shifting is the process whereby specific tasks are moved appropriately to health workers with less qualifications and shorter training (WHO, 2008). This is not a new concept and has been occurring for decades (Callaghan et al., 2010). The restructuring of health services in South Africa post 1994 and the adoption of a primary healthcare (PHC) approach have placed nurses at the frontline of improving access to PHC services, especially in resource-constrained settings. The need to amend the relevant South African legislation to enable nurses to provide comprehensive health services at a PHC level arose in the 1970s with the establishment of "independent" and self-governing "homelands" (Armstrong et al., 2013). The Nursing Act (No 50 of 1978) was subsequently amended through the promulgation of Section 38A of the Nursing Amendment Act (No 71 of 1981). Registered nurses in the service of the national Department of Health, the provincial administration, a local authority or an organisation delivering a health service designated by the Director-General of Health were authorised to conduct a physical examination; diagnose a physical defect; and keep, supply, administer or prescribe medicine according to the set conditions. In circumstances where nurses are the only healthcare providers at a particular service point, Section 22A(15) of the Medicines and Related Substances Control Act (in terms of the Amendment Act No 90 of 1997) provides for a concession that allows persons or institutions to apply for a permit to acquire, possess, use and supply medication.

The role of nurses was further expanded in 2010 when the Department of Health allowed (under Section 56(6) of the new Nursing Act 33 of 2005) nurses trained in nurse-initiated and -managed antiretroviral treatment (NIMART) to prescribe ART. NIMART is the process whereby appropriately trained nurses assess and initiate new patients to ART, re-prescribe ART for stable patients and refer patients to a physician when needed (Georgeu et al., 2012). Although nurses can be authorised to prescribe and dispense ART, Gray (2010) argues that safe and effective prescribing and dispensing is possible only if it is based on demonstrated competence, and that Section 56(6) should be seen as only a transitional concession, not the norm.

1.2. Problem statement

South Africa currently has the largest antiretroviral programme globally (Mayosi et al., 2012). The need to decentralise traditionally hospital-based HIV treatment and care services to PHC clinics, where care is primarily nurse-led, has become apparent with an increasing patient volume (Munderi, Grosskurth, Droti, & Ross, 2012).

Initiation of ART by professional nurses was shown to increase ART uptake in PHC clinics and reduce workload at referral facilities (Nyasulu, Muchiri, Mazwi, & Ratshefola, 2013). In addition, a meta-analysis by Emdin, Chong, and Millson (2013) showed that care provided by non-physicians may result in reduced loss to follow-up rates. Despite these encouraging outcomes, evidence for NIMART in Africa is still limited and possible barriers to implementation and its implications for the workforce need further investigation (Emdin et al., 2013; Gilbert, 2013; Georgeu et al., 2012). Resource disparities between clinics and local clinic factors may influence the long-term success and quality of a decentralised model of care through NIMART (Uebel, Guise, Georgeu, Colvin, & Lewin, 2013). It is therefore important to ensure that standards be maintained in PHC clinics, especially pertaining to the provision of ART.

One of the standards for HIV care in PHC facilities is that the facility must have the medication, supplies and equipment necessary for providing effective HIV services (Pleaner, Moleko, & Sibanyoni, 2008). Several criteria were identified in order to meet this standard, including access to pharmaceutical support services (Pleaner et al., 2008).

Pharmaceutical services include the acquisition, storage and responsible provision of medication, as well as any medication-related care that will achieve optimal patient outcomes and improve a patient's quality of life (King & Fomundam, 2010). Pharmacies dispensing ART must meet specific prescribed requirements (Pleaner et al., 2008). Consideration should be given to maintaining basic standards such as adequate drug supply management and pharmaceutical care (King & Fomundam, 2010).

In a survey of nurses trained in NIMART, only 38% had a qualification in the dispensing of medication (Cameron et al., 2012). This may indicate that many nurses do not have the knowledge to manage drug supplies and ensure drug safety. In addition, understanding pharmacological principles such as pharmacokinetics and pharmacodynamics, including drug interactions and adverse reactions, are essential to good pharmacy practice (Ruud, Srinivas, & Toverud, 2010). Yet, nurses' and auxiliary staff members' knowledge of pharmacology, as well as the management of adverse drug reactions, was found to be inadequate in the Eastern Cape, South Africa (Ruud, Srinivas, & Toverud, 2012). This raises concerns with regard to the quality and efficiency of the pharmaceutical services provided by nurses.

Nurses may be legally authorised to prescribe and dispense medications in a PHC setting (Schellack, 2011). However, Gray