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A simple tool to evaluate the antiretroviral therapy programme in primary health care setting of Lesotho

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Abstract

Aim: An evaluative tool for the antiretroviral therapy programme was developed for use in the primary health care setting of Lesotho.

Background: Information on processes followed in the development of standardized and acceptable evaluative tools is not always available to practicing nurses.

Methods: Behaviours affecting the antiretroviral therapy (ART) programme were contextualized using the conceptual model for social programmes and Intervention Wheel framework. A convergent parallel mixed-methods design was used to describe perceptions and explore experiences of nurses and patients. The Instrument Development Construct Validation process was used to develop an evaluative tool that was pre-tested on 17 respondents. Results were analysed using SPSS (23), and internal consistency using Cronbach's alpha coefficient was .768.

Results: The tool collects information on staffing patterns, services offered, patients seen, time spent seeking services, consultation time, Antiretroviral (ARV) availability, staff adequacy, staff competency, equipment adequacy, service efficiency, activity documentation, patient satisfaction, job satisfaction, monitoring and evaluation.

Conclusions: The evaluative tool permits identification of factors affecting delivery of the ART programme, hence assisting nurses to improve services provided.

Implications for nursing management: This method can be used to develop evaluative tools to assess implementation of public health services and inform successes, challenges and recognize improvement approaches.

KEYWORDS

antiretroviral therapy programme, development of tool, evaluative tool, primary health care setting

1 | INTRODUCTION

Many nurse professionals are faced with the challenge of being able to review health programmes as program evaluations deliver services. With not so many tools or frameworks available, this article provides a tool nurse professionals can use in the evaluation of the antiretroviral therapy programme.

Programme evaluation is used to monitor programme performance and ensures surveillance of disease within populations.

Evaluations are aimed at elucidating and understanding internal dynamics of how a programme, organization or relationship functions (Patton, 2002). They have purposes of programme management, improvement and refinement, financial accountability, to meet accreditation requirements and quality assurance and control (Babbie & Mouton, 2012). Researchers can include qualitative data and quantitative data as part of programme evaluation with operationalized objectives that have multiple qualitative and quantitative indicators (Neuman, 2014). Babbie and Mouton

(2012) used the terms process implementation, implementation evaluation and programme monitoring interchangeably to refer to programme evaluation. It involves an in-depth examination of the programme involving a collection of both qualitative and quantitative data (Polit & Beck, 2017).

In Lesotho, primary health care (PHC) settings, which are mostly managed by nurses as an initiative allowed by the Government of Lesotho due to the insufficiency of medical doctors (Nyangu & Nkosi, 2019; 2019), continue to be the main health care service delivery points. Services provided include activities of surveillance, screening, case finding, case management and treatment, consultation, referral and follow-up, health teaching, counselling and outreach services (Nyangu, 2016). With the integration of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) services into the PHC system, resources concentrated within HIV care have been extended to a broader patient population without reducing satisfaction levels of patients (Odeny et al., 2013). National guidelines were hence published in Lesotho in an effort to implement a nurse-based model to decentralize and scale-up ART provision (Labhardt et al., 2013).

The prevalence of HIV is estimated to be 25.6% (LePHIA, 2017), which is an estimation of about 340,000 people living with HIV, and of these, 61% were on ART in 2018 (UNAIDS, 2018). Antiretroviral therapy is the lifelong medical treatment used in the management of HIV/AIDS (Nyangu & Nkosi, 2019; 2019). It remains the best choice of treatment for HIV as it improves the health of people living with the disease (Nyangu & Mokwena, 2015). In Lesotho, it was started in 2001 and free ART was rolled out in 2004 (Nyangu, 2016). In an attempt to provide better care and treatment for ART patients, it is of utmost importance for more capacity building to reduce existing gaps (Smith et al., 2016). Furthermore, sustained support is necessary to ensure effective execution of the ART programme in resource-limited settings (Mavhandu-Mudzusi, Sandy, & Hettema, 2017). Nurses in Lesotho have reported the need for more supportive regular and sustained training on ART so as to keep abreast with the management of HIV (Nyangu, 2016).

In Lesotho, there is no current evaluative tool for the implementation of the ART programme in PHC settings. Literature on the successes, challenges and improvement plans in the implementation processes of ART programme in Lesotho remains limited. Lack of supportive supervision has been cited as resulting in an incoherent monitoring and evaluating system for the ART programme (Nyangu, 2016). Furthermore, poor tracking of patients due to the unavailability of ART registers and cards also resulted in a monitoring and evaluation system that was not effective (Nyangu & Nkosi, 2019; 2019). Supporting clinic-based efforts towards the inclusion of ART services into PHC services could improve the monitoring and evaluation of the ART programme. This paper, therefore, describes how an evaluative tool for the ART programme was developed for use in the PHC setting of Lesotho. The evaluation tool developed can be used to assess the ART programme to inform planning at each PHC facility in the country.

1.1 | Research purpose

Program evaluations purpose of this article is to assist primary care nurses to develop tools that can be used to evaluate public health programmes in the PHC setting so as to improve on their service delivery.

1.2 | Research objective

The objective was to develop an evaluative tool for the ART programme in the PHC setting of Lesotho.

1.3 | Methodology

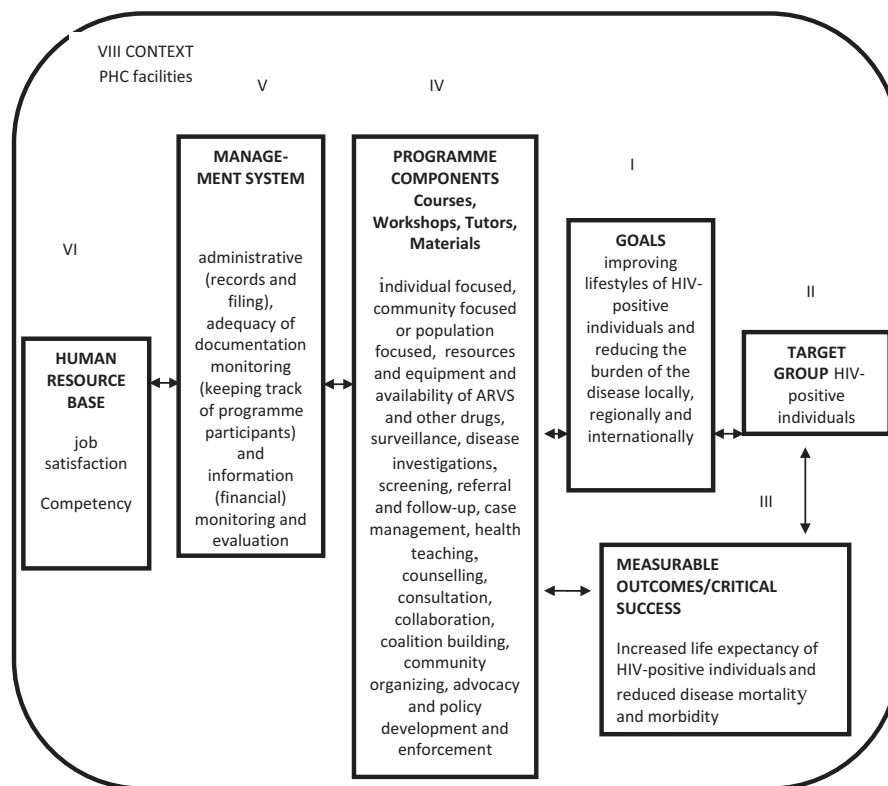
The instrument development and construct validation (IDCV; Onwuegbuzie, Bustamante, & Nelson, 2010) process was used to develop the quantitative instrument.

1.3.1 | Conceptualization of ART programme

The Conceptual Model of Social Programmes (Babbie & Mouton, 2002) provided a conceptual framework that described structured activities as well as processes involved in the implementation of the ART programme. ART drugs are designed to stop the HIV virus from damaging the human body and dispensed to patients in Lesotho mainly through PHC facilities. Due to the large numbers of patients requiring ART, this process of availing these drugs to those in need is now conducted in a planned manner hence, why it is a programme.

The ART programme aims at improving the lifestyles of HIV-positive individuals and reducing the burden of the disease locally, regionally and internationally. Measurable outcomes include increased life expectancy of HIV-positive individuals and reduced disease mortality and morbidity. ART programme components include processes involved in the implementation of the ART programme that is individual focused, community focused or population focused. Programme management systems involve monitoring and evaluation processes of the ART programme and adequacy of documentation in the programme. The human resource base for the ART programme includes adequate staff who are satisfied with their jobs. Staff is also qualified, competent and knowledgeable in the provision of ART services which are routine, accurate and efficient to ensure patient satisfaction. Stakeholders of the ART programme include HIV-positive individuals, communities and the population at large that are also affected by the disease. The context refers to settings in which ART services are offered, and they are the PHC facilities located at various sites within the country. Figure 1 shows the adapted Conceptual Model of Social Programmes for the ART programme.

FIGURE 1 Conceptual model for antiretroviral therapy programme (Adapted from Babbie & Mouton, 2002; Nyangu, 2016)



1.3.2 | Behaviours that underlie the antiretroviral therapy programme

The Intervention Wheel framework (Stanhope & Lancaster, 2012) was used to describe health service interventions that were provided by the ART programme. This is a population-based model that identifies three levels of practice including communities, individuals and families, and the systems that impact the health of communities (Stanhope & Lancaster, 2012). The interventions at each level of practice contribute to the overall goal of improving population health. Fourteen interventions were used to describe the ART programme, and they included surveillance, screening, case finding, case management, consultation, referral and follow-up, health teaching, counselling, outreach, collaboration, coalition, community organizing, and disease and health investigations. However, the implementation of these activities is seen to be affected by other factors from the health system as a whole. Figure 2 shows the adapted Intervention Wheel framework for the ART programme.

1.3.3 | Development of initial instrument

Data were collected using a convergent parallel mixed-methods research design. A total of four focus group discussions were conducted on registered nurses and HIV-positive individuals who were all purposively sampled. Sample one consisted of five registered nurses, while sample two had three registered nurses. Sample three had seven and sample four had four HIV-positive individuals. A semi-structured interview guide was used to collect information on the

behaviours found to affect the ART programme. Participants were asked to provide written consent to ensure the confidentiality of information discussed in the focus groups. Open and axial coding was conducted during constant comparison analyses in which qualitative data were analysed. A total of five themes and 19 sub-themes emerged from the data analysis.

Quota sampling was used to identify registered nurses who completed the quantitative tool. Raosoft sample size calculator was used to determine the sample size, and it was 214. However, only a total of 197 questionnaires were returned completed. Quantitative data were analysed using SPSS (23), and a professional statistician was engaged in the process. Kruskal-Wallis ANOVA (KWA) was used to analyse data as the samples were not randomly selected. Post hoc analyses were conducted using the Mann-Whitney U (MWU) test. Spearman rho correlation coefficient was used to determine associations.

The researcher then used the seven stages of data analysis suggested by Onwuegbuzie and Teddlie (2003) for mixed-methods research. The researcher reduced the data sets by combining responses from the information into common concepts or themes. Results were displayed using diagrams, tables and matrices. Crossover analyses were used to combine quantitative and qualitative data. Quantitative data were converted and described qualitatively. The converted quantitative data were then correlated to qualitative data. The correlated data were then consolidated into common concepts. The researcher compared the data sets to identify whether they provided the same information on the ART programme. The use of both quantitative and qualitative data sets allowed a combination of inductive and deductive reasoning and enhanced greater confidence in the evaluative tool developed.

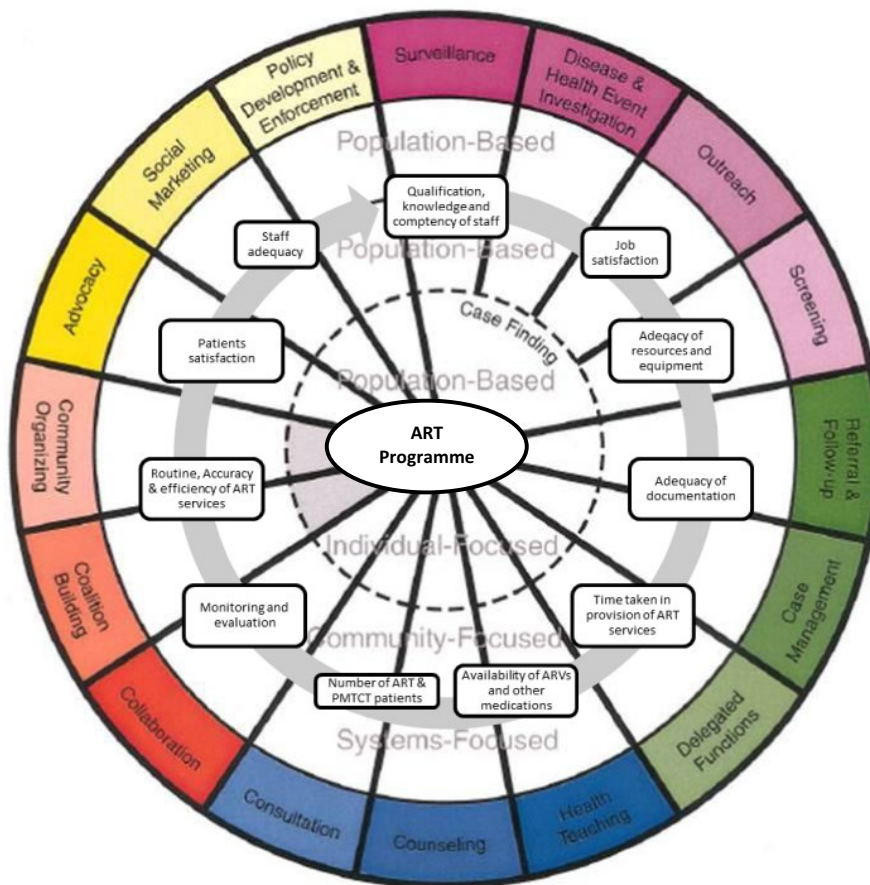


FIGURE 2 Intervention wheel framework for antiretroviral therapy programme (Adapted from Stanhope & Lancaster, 2012; Nyangu, 2016) [Colour figure can be viewed at wileyonlinelibrary.com]

1.3.4 | Pilot test

A total of eleven behaviours were identified as affecting the propagation of the ART programme. These were used to structure the initial tool and included staff adequacy; qualification, competency, knowledge of staff; job satisfaction; adequacy of resources and equipment; routine, accurate and efficient ART services; patient satisfaction; time taken in the provision of services; documentation of activities; availability of ARVs and other medications; number of ART and PMTCT patients; and monitoring and evaluation. The revised tool was then pre-tested again and given to 17 registered nurses who were conveniently sampled as they were involved in the ART programme. The data were analysed using SPSS (23), and internal consistency using Cronbach's alpha coefficient was .785. The tool developed was therefore of good quality.

1.3.5 | Instrument analysis

The researcher involved experts including a statistician to review the tool for item analysis, relevance and time analysis. The ART programme was conceptualized according to the eleven behaviours that were found to affect the programme.

1.3.6 | Validation of the instrument

Legitimation (Creswell & Plano Clark, 2011) was used in the validation of the instrument. Validity was ensured by the use of a pre-test to ascertain the relevance of items on the questionnaire both qualitatively and quantitatively. The researcher measured constructs with both structured and unstructured questions and integrated the results to bring a better description of the ART programme. Reliability was measured using Cronbach's alpha coefficient in the quantitative data collection instrument, and it was found to be .785 indicating a good level of internal consistency of the instrument.

Trustworthiness was ensured by an investment of sufficient time during data collection to ensure an in-depth understanding of the participants' experiences and perceptions. The researcher recorded the participants' demeanour and behaviours during discussions and thoroughly described the interview context. Probing was used during the interview process to allow the researcher to record information that was true from the participants. On an ongoing basis, the researcher reflected on biases, preferences and preconceptions and took her own prejudices and perspectives into account. Participants were given the opportunity to decide whether or not to participate in the study without any coercion. The researcher also returned to the first groups of participants to verify their responses. The researcher used a digital recorder of

good quality and transcribed the data verbatim to enable accurate capturing of the interviews. A codebook that was referred to and used consistently during the coding process was developed. The researcher also used a third independent co-coder and gave a description of the research process used and how the research results emerged from the experiences, and perceptions of the participants of the study. The tool was then revised to improve on clarity and arrangement of questions.

1.3.7 | Debriefing

The researcher held a debriefing session with a peer qualified at a Ph.D. level at each of the IDC processes. The researcher was able to reflect on the process used, describe the process followed and explain the data collection methods used before the final evaluative tool was developed. Expert opinions including that of a statistician were sought, and the tool was found to be relevant for the evaluation of the ART programme.

1.3.8 | Ethical considerations

Ethical clearance was obtained from the Higher Degrees Committee from the University of South Africa (RECID-012714-039). Permission to conduct the study was sought from the Ministry of Health in Lesotho (REC-ID136-2014) and its partners, and it was granted. The benchmarks for ethical research from Emanuel, Wendler, Killen, and Grady (2004) were used to guide ethical principles in this study and included collaborative partnership, social value, scientific validity, a fair selection of study population, favourable risk-benefit ratio, independent review, informed consent and respect for recruited participants and study communities.

Participants voluntarily decided whether or not to participate in the study. They were also allowed to ask questions, refuse to give information or withdraw from the study altogether. There were no implicit or explicit threats (coercion) of penalty from failing to participate or excessive rewards from agreeing to participate.

2 | RESULTS

Below is a description of the evaluative tool that was developed:

Name: Self-assessment by nurse professionals on the ART programme in Lesotho.

Purpose: To evaluate the ART in the PHC setting in Lesotho.

Target group: Nurse professionals.

Components of the tool: The tool has two sections. Section A addresses the demographic characteristics of the participants and staffing patterns at PHC facilities and has two questions. Section B addresses services offered, patient inflow and characteristics, and processes of the ART programme at PHC facilities and has a total of 19 questions.

Process of the tool: The tool is intended for use in the evaluation of the ART programme at PHC facilities regularly. It is suggested that it should be used at least twice in a year.

Recipients of the tool: The tool is intended for use by the Ministry of Health to assess the effectiveness and efficiency of implementation processes of the ART programme.

The context in which the tool is to be used: The tool is to be used at PHC facilities offering ART services including health centre facilities and outpatient departments of district hospitals. PHC facilities have been found to serve the majority of HIV-positive individuals and allow better access to health services.

Facilitator of the tool: The tool shall be administered by nurse managers and administrators of PHC facilities.

Evaluation of the tool: The tool shall be evaluated at least once every two years to ascertain the appropriateness of concepts on the tool.

Figure 3 shows the evaluative tool for the ART programme that was developed.

3 | DISCUSSION

Evaluation of HIV/AIDS prevention and management programmes can result in the development of a cost-effective framework that serves as a way to select promising programmes for rigorous outcome evaluation (Thomas, Bunch, & Card, 2003). While Lesotho has attained much greater coverage of health services through a move from a doctor-led to nurse-led ART service provision at PHC facilities, continued evaluation of ART service provision remains crucial to improve service delivery. As nurses continue to play a pivotal role in the health care system of Lesotho, they need much support for their efforts to be interpreted to improved health status for the whole nation (Nyangu, 2016). The tool developed in this study is to be used by nurses involved in implementing the ART programme. As already suggested by Center for Disease Control (CDC) (1999), we also believe that involvement of nurses in the collection of data on the ART programme will result in their acceptance of the evaluation conclusions. As they are key stakeholders, they too will be more likely act on the recommendations made to improve the ART programme.

This paper proves the applicability of the social and public health frameworks used in mixed-methods research to evaluate the ART programme. The importance of understanding social programmes and their implementation processes is crucial to the successful development of public health care evaluative tools. In this study, the Conceptual Model of Social Programmes (Babbie & Mouton, 2002) was used to conceptualize the ART programme, while the Intervention Wheel framework (Stanhope & Lancaster, 2012) was used to describe the behaviours that underlie the ART programme. This is in line with the CDC (1999) programme evaluation stage of focusing the evaluation. In this stage, the evaluation is focused to match characteristics of the programme in its development and context (CDC, 1999).

SELF-ASSESSMENT BY NURSE PROFESSIONALS ON THE ART PROGRAMME IN LESOTHO

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Instructions: This tool is to be completed by registered nurses. The information provided will remain anonymous and confidential. In this questionnaire ART includes PMTCT.

Facility Name

Section A

1. The following section elicits biographical data. Please tick (✓) or mark with (X) and provide as a number.

AGE IN YEARS			OCCUPATION	Registered nurse	1
MARITAL STATUS	Single	1		Registered nurse midwife	2
	Married	2		Nurse clinician	3
	Widowed	3		Other (specify)	4
	Separated	4	GENDER	Male	1
				Female	2
NO. YEARS FACILITY	OF AT		NO. OF YEARS IN CLINICAL PRACTICE		

2. The following section elicits information about the health facility. Please tick (✓) or mark with (X).

FACILITY OWNERSHIP	Government	1	TYPE OF FACILITY	Health center	1
	Church	2		Filter clinic	2
	Private	3		District hospital	3
	Municipality	4			

Section B

1. Indicate in numbers the average number of patients seen for ART (including PMTCT) services per week.

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For the questions that follow, Please tick () or mark with (X)

2. On how many days a week are ART services offered at your facility?

1 day	2 days	3 days	4 days
5 days	>5 days	no answer	

3. On how many days a week are PMTCT services offered at your facility?

1 day	2 days	3 days	4 days
5 days	> 5 days	no answer	

4. What is the average time spent by an individual who visits your facility for ART (including PMTCT) services?

30 mins	1 hour	2 hours	3 hours
4 hours	> 4 hours	no answer	

5. How long does it take for an individual seeking ART (including PMTCT) services to consult a nurse?

30 mins	1 hour	2 hours	3 hours
4 hours	> 4 hours	no answer	

6. ARVs are always available at your facility.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

7. Drugs to manage other health conditions are always available at your facility.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

8. The health facility has adequate staff to provide ART (including PMTCT) services.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

9. Staff at the health facility are qualified and competent to provide ART (including PMTCT) services.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

10. The health facility has adequate resources / equipment for the delivery of ART (including PMTCT) services.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

11. The organisational structure at the facility allows for the provision of adequate and efficient ART (including PMTCT) services.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

12. ART (including PMTCT) services offered at facility are always routinely, accurately and efficiently delivered to allow accessibility.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

13. Time spent at the facility allows patients to receive all ART (including PMTCT) services required.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

14. Documentary evidence for ART (including PMTCT) at the facility is adequate and accurate.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

15. Patients receiving ART at the facility are generally satisfied with ART (including PMTCT) services offered.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

16. You are generally satisfied with your job and the ART (including PMTCT) services being offered.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	no answer		

17. There is a monitoring and evaluation system that is used to inform ART programme. If available, briefly describe this system.

Strongly agree	Agree	Neutral	Disagree
Strongly disagree	No answer		

18. What challenges are you currently facing in the provision of ART (including PMTCT) services?

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19. What suggestions can you make to improve the provision of ART (including PMTCT) services?

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FIGURE 3 Evaluative tool for antiretroviral therapy programme (Nyangu, 2016)

The researchers acknowledge the importance of collecting and analysing both qualitative and quantitative data at the same time. This allowed an in-depth analysis of the ART programme and its

contextualization into the PHC setting. Furthermore, the credibility of programme evaluation can be enhanced by using various procedures for gathering, analysing and interpreting data (CDC,

1999). The mixed methods allowed us to obtain different but complementary data on the ART programme. They bring together differing strengths and non-overlapping weaknesses of quantitative methods with those of qualitative methods (Creswell & Plano Clark, 2011). Mixed methods were, therefore, used to triangulate the methods by directly contrasting quantitative with qualitative findings for justification and validation purposes (Creswell & Plano Clark, 2011).

We also demonstrate the applicability of the IDCV framework for the development of evaluative tools that can be used in PHC settings. This framework guided the development of an evaluative tool from the mixed-methods data combined from contextualized components of the Intervention Wheel framework and conceptual model for social programmes. Koskey, Sondergeld, Stewart, and Pugh (2018) also used the IDCV mixed-methods framework in the development of a questionnaire on a transformative experience. As a method, this framework shows promise in the development of much-needed tools to evaluate public health care services.

The evaluative tool developed in this study can, therefore, be used for regular assessment of implementation processes of the ART programme at PHC facilities to inform timely, effective and efficient planning. Results from such evaluative processes could inform the Ministry of Health in Lesotho towards the implementation of specific activities to better improve ART service delivery and coverage.

4 | CONCLUSIONS

Public health service evaluative tools can be developed in a structured manner by nurse professionals involved in service provision. Public health frameworks must be used to structure the development of such tools as this enables the contextualization of the programmes to be evaluated. The strategy described in this paper can be used in the development of tools for other public health programs. Acting upon the results of program evaluations may increase the efficiency of public health programs.

ETHICAL APPROVAL

Ethical clearance was obtained from the Ethics and Higher Degrees Committee at the University of South Africa (REC-012714-039) and Ministry of Health in Lesotho (ID136-2014).

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