Perception of health workers on availability of medicines for non-communicable diseases in public health facilities in Lesotho

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Research Article

Keywords: access to medicines, access to treatments, Lesotho, medicines for non-communicable diseases

Posted Date: January 17th, 2022

DOI: <https://doi.org/10.21203/rs.3.rs-1225014/v1>

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Abstract

Background

Medicines for non-communicable diseases (NCDs) are essential in the management of patients with NCDs therefore, it is important that they are readily available to patients at health facilities.

Objective

This study aimed to assess the availability of medicines used in the management of hypertension, diabetes mellitus, asthma and epilepsy in public outpatient departments (OPDs) and healthcare centres in Lesotho.

Methods

A cross-sectional study was conducted at public OPDs in district hospitals and healthcare centres in Lesotho using self-administered structured questionnaires targeting all health workers in managerial positions. Ethical approval was obtained from a licenced Health Research Ethics Committee (HREC) (Ethics number: 00048-18-A1) and the Ministry of Health Ethics Committee and Review Board of Lesotho (ID120-2018). Data were analysed descriptively.

Results

Ten of 16 respondents at OPDs perceived that medicines for diabetes mellitus were available and nine thought those for hypertension and asthma were available. Eight of 16 respondents perceived that medicines for epilepsy were available at OPDs. At healthcare centres, 73.3% (n = 63) of respondents perceived that medicines for diabetes mellitus were available, 62.8% (n = 54) thought hypertension medicines were available, 68.6% (n = 59) indicated that medicines for asthma were available, and 61.6% (n = 53) perceived that medicines for epilepsy were also available.

Conclusion

The majority of health workers at OPDs and healthcare centres perceived that medicines for hypertension, diabetes mellitus, asthma and epilepsy were available at health facilities. Thus, suggesting that the public health facilities in Lesotho seem to almost always have medicines for NCDs.

Introduction

Essential medication used to manage non-communicable diseases (NCDs) should always be available in public health facilities as NCDs are lifelong diseases which need uninterrupted use of medicines by patients. Additionally, patients should always leave the health facility carrying their prescribed medicines to enhance trustworthiness in healthcare services provided at health facilities. The unavailability of medicines in public

health facilities in Talukas (India) increased the use of private health facilities which led to a perception of poor healthcare service delivery in public health facilities.¹ In Eswatini, a study on medicine availability and its impact on patients with NCDs revealed that 50.7% of patients with NCDs did not receive all of their prescribed medication during monthly refills.² This may lead to patients developing NCD-related complications due to non-adherence because they may not be able to procure medicines from private pharmacies.²

Morbidity and mortality due to NCDs can be decreased through utilising appropriate pharmacological treatment thus, availability of medicines is important. Public health facilities procure medicines on the national essential medicines list (EML). A study comparing the availability of medicines for chronic and acute conditions in 40 developing countries, showed that fewer generic medicines for chronic conditions (36.0%) were available as compared to generic medicines for acute conditions (53.5%) in the public sector.³ This creates challenges in the management of NCDs as supply of medicines to patients has to be continual to effectively control their NCDs. Some of the reasons for low availability of medicines for NCDs in the public sector of developing countries include scarce funding, failure to forecast drug needs and maintain drug stocks, ineffective purchasing and distribution systems, and leakage of medicines for private resale.⁴ Also, variations in the products included in the national EML or poor compliance with their recommendations could lead to low availability of medicines in the public sector.⁴

Moreover, medicine shortages are a concern in public health facilities and this can lead to increased costs for health systems due to high prices of substitute medicines, medication errors, consequences of delayed therapy, and prescribers and dispensers substituting medicines that are not clinically appropriate.⁵⁻⁶ Strategies that improve access to essential medicines include effective use of updated standard treatment guidelines (STGs) and EML, effective procurement, timely distribution and appropriate storage of essential medicines.⁷

It is evident that unavailability of essential medicines for NCDs contributes to poor healthcare services at health facilities. Also, there is a lack of research on availability of medicines for NCDs at public health facilities in Lesotho. To fill this research gap, this study assessed the availability of medicines used in the management of hypertension, diabetes mellitus, asthma and epilepsy in public outpatient departments (OPDs) and healthcare centres in Lesotho.

Methods

A cross-sectional study was conducted at public health facilities in Lesotho using self-administered structured questionnaires from December 2018 to June 2019. The study sites included all public OPDs in district hospitals and healthcare centres in Lesotho. Convenience sampling was employed where all health workers in managerial or acting in managerial positions for more than six months formed the sample size. The sample size totalled 366 and was distributed as follows: OPDs (90) and healthcare centres (276). Health workers who were absent during the data gathering process were excluded from the study. Ethical approval for the study was obtained from a licenced Health Research Ethics Committee (HREC) (Ethics number: 00048-18-A1) and the Ministry of Health Ethics Committee and Review Board of Lesotho (ID120-2018).

Health workers were asked to sign informed consent forms before the distribution of self-administered structured questionnaires. A direct method of distribution was used where hard copies of the questionnaires were handed out to health workers. This method was used because most study sites were found in remote rural areas where there is lack of internet access. Trained independent research assistant and public healthcare managers assisted researchers with questionnaire distribution.

Two self-administered structured questionnaires were developed using the six building blocks of the World Health Organization (WHO) health system framework, international literature, expert advisors and the research team's experience as pharmacists.⁸⁻¹³ The questionnaires collected data on: sociodemographic characteristics of health workers, availability of medicines used in NCDs and medicines for NCDs out-of-stock in the past three months before the date of data collection.

Data were captured using Microsoft excel® 2013 and cleaned and analysed using Statistical Package for Social Sciences (SPSS®) version 25. Quantitative methods were used to assess availability of medicines used in NCDs and NCD medicines out-of-stock at OPDs and healthcare centres. Categorical variables were described using frequencies and percentages (%). Continuous variables were defined using means and standard deviations and 95% confidence intervals (CI) for symmetric distribution. To evaluate the availability of medicines used in NCD management, the Lesotho EML 2017 and the WHO Model List of Essential Medicines 21st 2019 were used (refer to Table 1).¹⁴⁻¹⁵

Table 1

List of medicines used in the management of non-communicable diseases as per the WHO model list of essential medicines and the Lesotho essential medicines list

List of medicines	Lesotho EML 2017	WHO Model List of Essential Medicines 21st 2019
Hypertension		
Hydrochlorothiazide	X	X
Atenolol	X	
Indapamide	X	
Hydralazine	X	X
Methyldopa	X	X
Nifedipine	X	
Perindopril	X	
Captopril	X	
Enalapril	X	X
Carvedilol	X	
Diabetes mellitus		
Gliclazide	X	X
Glibenclamide	X	
Glimepiride	X	
Metformin	X	X
Protaphane	X	X
Actraphane	X	X
Actrapid	X	X
Asthma		
Salbutamol tablets	X	X
Salbutamol inhaler	X	X
Beclomethasone inhaler	X	X
Aminophylline	X	
Epilepsy		
Phenytoin	X	X
Phenobarbitone	X	X

List of medicines	Lesotho EML 2017	WHO Model List of Essential Medicines 21st 2019
Sodium valproate	X	X
Carbamazepine	X	X
Diazepam		X
<i>EML = Essential medicines list</i>		

Results

Table 2 summarises sociodemographic characteristics of the respondents. The respondents at OPDs were composed of eight women and seven men. Women (mean age: 41.0; SD=11.3 years) were marginally older than men (mean age: 40.0; SD=9.9 years). Seven respondents were pharmacists by profession of whom five held the position of head pharmacist. Four of the 10 respondents worked at the OPDs for more than five years. The majority of respondents had a bachelor's degree (n = 10). Three respondents at OPDs worked in a district hospital found in Thaba-Tseka and four worked in a district hospital found in Mafeteng. The respondents were mainly from the pharmacy department (n = 8) within the OPDs. The majority of district hospitals were owned by the Government of Lesotho (n = 11).

There were more female respondents (80.2%, n = 69) in healthcare centres compared to males (19.8%, n = 17). Women (mean age: 40.1; SD=11.5 years) were older than men (mean age: 31.2; SD=6.4 years). Respondents at healthcare centres were mainly nurses (44.2%, n = 38) and nurse-midwives (32.6%, n = 28) by profession, and held managerial positions of a nurse (39.5%, n = 34) or nurse in charge (33.7%, n = 29). About a third of respondents had been employed as managers for one to five years (30.4%, n = 26), with a further 11 employed for more than 10 years. The respondents mainly had diplomas (69.8%, n = 60). The healthcare centres in which respondents worked were mainly found in Leribe (22.1%, n = 19), Thaba-Tseka (16.3%, n = 14) and Mafeteng (14.0%, n = 12). More than half of the healthcare centres belonged to the Christian Health Association of Lesotho (CHAL) (55.8%, n = 48).

Table 2
Sociodemographic characteristics of health workers

Demographic information	Description	Respondents at OPDs (N = 16), n	Missing responses, n	Respondents at healthcare centres (N = 86), n (%)	Missing responses, n (%)
Gender	Male	7	1	17 (19.8)	0
	Female	8		69 (80.2)	
Age in years, mean; SD (95% CI)	Mean age	40.5; SD=10.2 (34.6-46.4)	0	38.1; SD=11.2 (35.1-41.1)	0
	Males	40.0; SD=9.9		31.2; SD=6.4	
	Females	41.0; SD=11.3		40.1, SD=11.5	
Professional qualification	Medical doctor	2	1	0	13 (15.1)
	Pharmacist	7		1 (1.2)	
	Nurse	5		38 (44.2)	
	Pharmacy technologist	1		0	
	Nurse clinician	0		3 (3.5)	
	Nurse midwife	0		28 (32.6)	
	Nursing assistant	0		3 (3.5)	
Managerial position held	District medical officer	1	2	0	2 (2.3)
	Head pharmacist	5		0	
	Pharmacist	2		0	
	Matron	2		0	
	Hospital manager for nursing services	3		0	
	Medical superintendent	1		0	
	Nurse in charge	0		29 (33.7)	
	Nurse clinician	0		18 (20.9)	
	Nurse	0		34 (39.5)	

Demographic information	Description	Respondents at OPDs (N = 16), n	Missing responses, n	Respondents at healthcare centres (N = 86), n (%)	Missing responses, n (%)
	Pharmacy technician	0		2 (2.3)	
	Nursing sister	0		1 (1.2)	
Years of employment	1–5	6	6	26 (30.4)	39 (45.3)
	6–10	4		10 (11.7)	
	≥10	0		11 (13.1)	
Educational level	Junior certificate	0	1	1 (1.2)	0
	Certificate in nursing assistant	0		2 (2.3)	
	Diploma	1		60 (69.8)	
	Bachelor's degree	10		23 (26.7)	
	Honours degree	2		0	
	Master's degree	2		0	
District in which health facility is found	Maseru	2	0	16 (18.6)	0
	Berea	2		2 (2.3)	
	Leribe	0		19 (22.1)	
	Buthat-Buthe	2		6 (7.0)	
	Mokhotlong	1		4 (4.7)	
	Thaba-Tseka	3		14 (16.3)	
	Qacha's Nek	0		5 (5.8)	
	Mohale's Hoek	2		8 (9.3)	
	Mafeteng	4		12 (14.0)	
Organisation that owns your health facility	Government of Lesotho	11	0	37 (43.0)	1 (1.2)
	CHAL	5		48 (55.8)	
Outpatient department you work in	Pharmacy	8	3	0	0
	Nurses	5		0	
CHAL = Christian Health Association of Lesotho; OPDs= Outpatient departments					

Table 3 presents the perception of respondents at OPDs and healthcare centres on medicines for NCDs that was out-of-stock in the past three months before the date of data collection of this study. Ten respondents at OPDs perceived that medicines for diabetes mellitus were not out-of-stock; nine respondents each thought medicines for hypertension and asthma were not out-of-stock, and eight respondents felt that medicines for epilepsy management were not out-of-stock. At healthcare centres, 73.3% (n = 63) of respondents perceived that medicines for diabetes mellitus were not out-of-stock, 62.8% (n = 54) thought hypertension medicines were not out-of-stock, 68.6% (n = 59) indicated that medicines for asthma were not out-of-stock, and 61.6% (n = 53) of respondents perceived that medicines for epilepsy were not out-of-stock.

Table 3

The perception of health workers on non-communicable disease medicines out-of-stock in health facilities

NCDs	Respondents at OPDs (N = 16), n				Perception of respondents at healthcare centres (N = 86), %			
	Not at all	Rarely	Sometimes	Missing responses	Not at all	Rarely	Sometimes	Missing responses
Diabetes mellitus	10	1	1	4	63 (73.3)	10 (11.6)	8 (9.3)	5 (5.8)
Hypertension	9	1	2	4	54 (62.8)	15 (17.4)	12 (14.0)	5 (5.8)
Asthma	9	1	2	4	59 (68.6)	16 (18.6)	7 (8.1)	4 (4.7)
Epilepsy	8	0	4	4	53 (61.6)	13 (15.1)	11 (12.8)	9 (10.5)
<i>OPDs = Outpatient departments</i>								

Table 4 presents the perception of respondents at OPDs on the type of medicines for NCDs that was available and out-of-stock in the past three months before the date of data collection of this study. Six respondents perceived that gliclazide was available to manage diabetes mellitus, 12 respondents also indicated the availability of glibenclamide, metformin and actraphane whereas another 11 respondents felt that protaphane and actrapid were available to manage diabetes mellitus. Ten respondents perceived that antihypertensive medicines available at OPDs included hydralazine whereas 12 respondents thought that hydrochlorothiazide, atenolol, methyldopa, nifedipine and captopril were also available. Eleven respondents perceived that available anti-asthmatic medicines included salbutamol tablets and beclomethasone inhalers whereas 12 respondents thought salbutamol inhaler and prednisolone tablets were available. Eleven respondents also indicated that anti-epileptic medicines available were phenytoin and carbamazepine whereas 12 respondents felt that phenobarbitone, sodium valproate and diazepam were available. The medicines at OPDs are in line with the Lesotho EML 2017 (refer to Table 1) with an exception of prednisolone and diazepam tablets.

Table 4
The perception of health workers on type of medicines available at outpatient departments

Perception of respondents at OPDs (N = 16), n							
NCDs	Type of medicine used for NCD management	Available			Out-of-stock		
		No	Yes	Missing responses	No	Yes	Missing responses
Diabetes mellitus	Gliclazide	3	6	7	4	1	11
	Glibenclamide	0	12	4	6	0	10
	Glimepiride	8	0	8	0	3	13
	Metformin	0	12	4	6	0	10
	Protaphane	1	11	3	5	1	10
	Actraphane	0	12	4	6	0	10
	Actrapid	0	11	5	6	0	10
Hypertension	Hydrochlorothiazide	0	12	4	6	0	10
	Atenolol	0	12	4	6	0	10
	Indapamide	6	3	7	2	1	13
	Hydralazine	1	10	5	6	2	9
	Methyldopa	0	12	4	6	0	10
	Nifedipine	0	12	4	6	0	10
	Perindopril	7	0	9	0	3	13
	Captopril	1	12	3	5	1	10
Asthma	Salbutamol tablets	1	11	4	4	1	11
	Salbutamol inhaler	0	12	4	5	1	10
	Beclomethasone inhaler	0	11	5	5	0	11
	Prednisolone tablets	0	12	4	5	0	11
Epilepsy	Phenytoin	0	11	5	6	0	10
	Phenobarbitone	0	12	4	6	0	10
	Sodium valproate	0	12	4	6	0	10
	Carbamazepine	0	11	5	3	3	10
	Diazepam	0	12	4	4	2	10
OPDs = Outpatient departments							

Table 5 show that 98.8% (n = 85) of respondents at healthcare centres perceived that glibenclamide was available to manage diabetes mellitus, 95.3% (n = 82) thought metformin was available and 61.6% (n = 53) indicated that actraphane was available. All respondents (100.0%, n = 86) at healthcare centres thought that hydrochlorothiazide and methyldopa were available to manage hypertension at healthcare centres. Eighty-five (98.8%) respondents perceived that atenolol and nifedipine were available whereas 84 (97.7%) respondents indicated that captopril was available to manage hypertension. Eighty-three (96.5%) respondents perceived that salbutamol tablets and salbutamol inhalers were available whereas 82 (95.3%) respondents thought that prednisolone tablets were available to manage patients with asthma at healthcare centres. Also, 86.0% (n = 74) of respondents perceived that anti-epileptics available to manage epilepsy were phenytoin, 90.7% (n = 78) of respondents indicated that phenobarbitone was available, 80.2% (n = 69) indicated that sodium valproate was available, 94.2% (n = 81) of respondents felt that carbamazepine was also available and another 89.5% (n = 77) of respondents believed that diazepam tablets were available at healthcare centres. The medicines used to manage diabetes mellitus, hypertension, asthma and epilepsy at healthcare centres are in line with the Lesotho EML 2017 in Table 1 with an exception of prednisolone and diazepam tablets.

Table 5
The perception of health workers on the type of medicines available and at healthcare centres

Perception of respondents at healthcare centres (N = 86), n (%)							
NCDs	Type of medicine used for NCD management	Available			Out-of-stock		
		No	Yes	Missing responses	No	Yes	Missing responses
Diabetes mellitus	Gliclazide	55 (64.0)	4 (4.7)	27 (31.4)	6 (7.0)	7 (8.1)	73 (84.9)
	Glibenclamide	0	85 (98.8)	1 (1.2)	39 (45.3)	0	47 (54.7)
	Glimepiride	56 (65.1)	4 (4.7)	26 (30.2)	6 (7.0)	7 (8.1)	73 (84.9)
	Metformin	3 (3.5)	82 (95.3)	1 (1.2)	38 (44.2)	1 (1.2)	47 (54.7)
	Protaphane	50 (58.1)	10 (11.6)	26 (30.2)	8 (9.3)	7 (8.1)	71 (82.6)
	Actraphane	21 (24.4)	53 (61.6)	12 (14.0)	24 (27.9)	8 (9.3)	54 (62.8)
	Actrapid	42 (48.8)	22 (25.6)	22 (25.6)	11 (12.8)	7 (8.1)	68 (79.1)
Hypertension	Hydrochlorothiazide	0	86 (100.0)	0	37 (43.0)	4 (4.7)	45 (52.3)
	Atenolol	0	85 (98.8)	1 (1.2)	38 (44.2)	3 (3.5)	45 (52.3)
	Indapamide	56 (65.1)	2 (2.3)	28 (32.6)	2 (2.3)	8 (9.3)	76 (88.4)
	Hydralazine	33 (38.4)	30 (34.9)	23 (26.7)	15 (17.4)	11 (12.8)	60 (69.8)
	Methyldopa	0	86 (100.0)	0	40 (46.5)	0	46 (53.5)
	Nifedipine	1 (1.2)	85 (98.8)	0	37 (43.0)	2 (2.3)	47 (54.7)
	Perindopril	56 (65.1)	4 (4.7)	26 (30.2)	5 (5.8)	9 (10.5)	72 (83.7)
	Captopril	1 (1.2)	84 (97.7)	1 (1.2)	38 (44.2)	3 (3.5)	45 (52.3)

The perception of health workers at OPDs and healthcare centres on suppliers of medicines for NCDs to public health facilities is presented in Table 6. The respondents at OPDs (n = 14) mainly perceived that the main supplier of medicines for NCDs to OPDs was the National Drug Service Organisation (NDSO). The majority of respondents at healthcare centres (94.2%, n = 81) were also of the opinion that the main supplier of medicines for NCDs to healthcare centres was the NDSO.

Perception of respondents at healthcare centres (N = 86), n (%)							
Asthma	Salbutamol tablets	2 (2.3)	83 (96.5)	1 (1.2)	34 (39.5)	3 (3.5)	49 (57.0)
	Salbutamol inhaler	2 (2.3)	83 (96.5)	1 (1.2)	33 (38.4)	5 (5.8)	48 (55.8)
	Beclomethasone inhaler	37 (43.0)	33 (38.4)	10 (11.6)	11 (12.8)	16 (18.6)	59 (68.6)
	Prednisolone tablets	1 (1.2)	82 (95.3)	3 (3.5)	34 (39.5)	1 (1.2)	51 (59.3)
Epilepsy	Phenytoin	10 (11.6)	74 (86.0)	2 (2.3)	30 (34.9)	7 (8.1)	49 (57.0)
	Phenobarbitone	6 (7.0)	78 (90.7)	2 (2.3)	31 (36.0)	8 (9.3)	47 (54.7)
	Sodium valproate	9 (10.5)	69 (80.2)	9 (10.5)	26 (30.2)	11 (12.8)	49 (57.0)
	Carbamazepine	3 (3.5)	81 (94.2)	2 (2.3)	34 (39.5)	3 (3.5)	49 (57.0)
	Diazepam	8 (9.3)	77 (89.5)	1 (1.2)	31 (36.0)	11 (12.8)	44 (51.2)
<p>The perception of health workers at OPDs and healthcare centres on suppliers of medicines for NCDs to public health facilities is presented in Table 6. The respondents at OPDs (n = 14) mainly perceived that the main supplier of medicines for NCDs to OPDs was the National Drug Service Organisation (NDSO). The majority of respondents at healthcare centres (94.2%, n = 81) were also of the opinion that the main supplier of medicines for NCDs to healthcare centres was the NDSO.</p>							

Table 6

The perception of health workers on suppliers of medicines for non-communicable disease to health facilities

OPDs response (N = 16), n						Missing responses (n)
Suppliers	Hardly ever	Occasionally	Sometimes	Frequently	Almost always	
NDSO	0	0	0	0	14	2
Tripharm®	6	0	1	0	0	9
Private drug wholesaler elsewhere	6	1	0	0	0	9
Healthcare centres response (N = 86), n (%)						Missing responses (n, %)
Suppliers	Hardly ever	Occasionally	Sometimes	Frequently	Almost always	
NDSO	0	0	0	3 (3.5)	81 (94.2)	2 (2.3)
Tripharm®	17 (19.8)	10 (11.6)	18 (20.9)	5 (5.8)	4 (4.7)	32 (37.2)
Private drug wholesaler elsewhere	36 (41.9)	2 (2.3)	0	0	0	48 (55.8)
<i>OPDs = Outpatient departments; NDSO = National Drug Supply organisation</i>						

Discussion

Non-communicable diseases are life-long diseases that require continual use of medication. Thus, medicines for NCDs must always be available in health facilities. Availability of NCD medicines in public health facilities found in six regions of Bangladesh (Dhaka, Sylhet, Chittagong, Dinajpur, Khulna and Barisal) was significantly less as compared to the availability of medicines for infectious diseases.¹⁶ However, some medicines such as chlorpheniramine maleate, ranitidine, omeprazole, and losartan were widely available.¹⁶ Compared to the availability of medicines for NCDs in health facilities in Lesotho, this study findings indicated that medicines used in the management of diabetes mellitus, hypertension, asthma and epilepsy were mostly available in the past three months before the date of data collection at OPDs and healthcare centres. Similarly, prescribers in health facilities in Sri Lanka aligned to medicines for NCDs that were included in the list of priority drugs to manage NCD at primary-level healthcare institutions (published in 2013) or the list of price-regulated drugs published in 2017.¹⁷ Thus, patients with NCDs were prescribed more available and more affordable medicines so, patient experiences in Sri Lanka showed good availability and access to NCD medicines.¹⁷

The WHO Model List of Essential Medicines 21st 2019 is a guide for the development of national and institutional EML which list good quality, readily available, and affordable drugs necessary for the management of NCDs and other diseases.¹⁵ The medicines for NCDs available for managing hypertension, diabetes mellitus, asthma and epilepsy in the public health facilities of Lesotho were as per the WHO Model List of Essential Medicines 21st 2019 and the Lesotho EML 2017.¹⁴⁻¹⁵ Thus, the findings of the study revealed that the type of medicines for NCDs available in public health facilities in Lesotho were of good quality, safe, available and affordable.

Most respondents perceived that the type of medicines for NCDs that were available at OPDs in Lesotho included antidiabetics (gliclazide, glibenclamide, metformin, actraphane, actrapid and protaphane), antihypertensives (hydralazine, hydrochlorothiazide, atenolol, methyldopa, nifedipine and captopril), anti-asthmatics (salbutamol inhalers, beclomethasone inhalers, salbutamol tablets and prednisolone tablets), and anti-epileptics (phenytoin, carbamazepine, phenobarbitone, sodium valproate and diazepam tablets). The NCDs medicines that was available at healthcare centres in Lesotho as perceived by most respondents was as follows: diabetes mellitus medicines (glibenclamide, metformin and actraphane), hypertension medicines (hydrochlorothiazide, methyldopa, atenolol, nifedipine and captopril), asthma medicines (salbutamol tablets, salbutamol inhalers and prednisolone tablets) and epilepsy medicine (phenytoin and phenobarbitone). Likewise, in Malawi, widely available medicines for NCDs in public health facilities are as follows: anti-epileptics included phenobarbital sodium tablets, carbamazepine and diazepam injection, and antihypertensive included hydrochlorothiazide, and these medicines were listed in the Malawi EML.¹⁸ Also, thirty-two countries (94%) selected thiazide diuretics (hydrochlorothiazide), renin-angiotensin-aldosterone system (RAAS) inhibitors (enalapril or valsartan), selective beta-blockers (metoprolol) and dihydropyridine calcium channel blocker (amlodipine) for the management of hypertension.¹⁹ These medicines for hypertension were selected using international treatment guidelines for cardiovascular diseases (CVD) management such as WHO guidelines.¹⁹

One way of reducing the burden of NCDs is through the availability of medicines for NCDs. Assessment of perceptions of adult patients in Kenya on the availability of medicines for NCDs found that most adult patients with NCDs in Kenya perceived that medicines were not available at the government health facilities.²⁰ Unavailability of medicines in government health facilities forced adult patients with NCDs to buy the medicines at private facilities and pharmacies.²⁰ Likewise, the findings of this study indicated that some respondents at OPDs and healthcare centres also perceived that medicines for NCDs were out-of-stock during one point in time at OPDs and healthcare centres within the past three months before the date of data collection. Therefore, NCDs are chronic diseases that are managed continually with medication specific to a particular NCD a patient suffers from, and unavailability of these medicines means an interruption in the management of NCDs.

Currently, there is one leading statutory body established as a trading account of the Ministry of Health in Lesotho, which is the National Drug Supply Organisation (NDSO) which has been delegated to manage national drug supply.²¹⁻²³ The NDSO is responsible for the procurement, storage and distribution of medicines and medical supplies for both the Christian Health Association of Lesotho (CHAL) and government health facilities.^{21,22} This study findings also revealed that the main supplier of medicines for NCDs at OPDs

and healthcare centres was the NDSO. The situation of Lesotho is similar to that in Zimbabwe where the National Pharmaceutical Company of Zimbabwe is the national drug supplier working together with the Ministry of Health and Child Welfare and supplies pharmaceutical products to government health facilities.²⁴

There were limitation and strengths when this study was conducted. A low response rate was a limitation where 16 out of 90 (17.8%) health workers at OPDs participated in this study and 86 out of 276 (31.2%) health workers at healthcare centres participated. The low response rate at OPDs and healthcare centres was due to a lack of personnel at OPDs and healthcare centres. Furthermore, staff transfers from one health facility to the other led to participants not complying with the inclusion criteria because they had less than six months working in the new health facility. However, information generated from this study will be used by the national, district, and primary healthcare levels to inform decision-making in the management of NCDs in Lesotho's health sector. The findings in this study also form a base for further investigations into availability of medicines for NCDs at public health facilities in Lesotho.

Conclusion

The public health facilities in Lesotho had medicines for NCDs as per the WHO Model of Essential Medicines 21st 2019 and the Lesotho EML 2017, and infrequently ran out of medicines for NCD management. Thus, suggesting that the process of procurement and distribution of medicines for NCDs by public health facilities seems effective.

Declarations

Acknowledgements:

The authors would like to thank all health workers at OPDs and healthcare centres who participated in this study.

Competing Interests: The authors declare that they have no competing financial, professional or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

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