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Perception of Managers at Outpatient Departments and Healthcare Centres on Availability of Medicines for Non-Communicable Diseases in Public Health Facilities in Lesotho

Lineo Maja

Abstract: ***Background: Medicines for non-communicable diseases (NCDs) are essential in the management of patients with NCDs; therefore, they must be 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 employees in managerial positions. Ethical approval was obtained from a licensed 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 respondents at the OPDs perceived that medicines for diabetes mellitus were available, and nine respondents thought medication for hypertension and asthma were also available. Eight respondents perceived that medicines for epilepsy were available at OPDs. At healthcare centres, 73.3% (n = 63) of respondents perceived that drugs 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) of respondents perceived that medicines for epilepsy were also available. Conclusion: The majority of managers at OPDs and healthcare centres perceived that medication for hypertension, diabetes mellitus, asthma and epilepsy were available at health facilities. Thus, it suggests that public health facilities in Lesotho seem almost always to have medicines for NCDs.***

Keywords: ***Access to Medicines, Access to Treatments, Lesotho, Medicines for Non-Communicable Diseases***

I. INTRODUCTION

Essential medications used in the management of non-communicable diseases (NCDs) should always be available in public health facilities, as people often measure good healthcare service delivery by the availability of medication.[1] 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].

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*Correspondence Author(s)
Lineo Maja, Senior Lecturer, Department of Pharmacy, National University of Lesotho, Faculty of Health Sciences, PO Roma 180, Maseru, Lesotho. Email ID: majalineo@gmail.com

One of the most critical elements in healthcare service delivery is ensuring that patients always leave the health facility with their prescribed medicines. In Eswatini (previously known as Swaziland), a study on medicine availability and its impact on patients with NCDs revealed that 50.7% of the patients did not receive all of their prescribed medication during monthly refills [2]. Because patients may not be able to obtain medicines from private pharmacies, they may be non-adherent, leading to the development of complications related to chronic conditions [2]. Once patients go home without having all their prescribed medicines in hand, they question the quality of services provided to them, develop complications leading to hospitalisation, and refrain from receiving their NCD services at the health facility.

The availability of medicines used in the treatment of chronic diseases is critical because morbidity and mortality due to chronic diseases can be decreased through the use of appropriate pharmacological treatment. 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 compared to those for acute conditions (53.5%) in the public sector [3]. The low availability of drugs in the public sector can be attributed to scarce funding, failure to accurately forecast drug needs and maintain adequate drug stocks, ineffective purchasing and distribution systems, and the leakage of medicines for private resale [4]. Public health facilities procure medicines on the national essential medicines list (EML), so the low availability of drugs in the public sector could be due to variations in the products included in the national EML or poor compliance with their recommendations [4]. Medicine shortages are a concern in public health facilities, which can lead to increased costs for health systems due to the high prices of substitute medicines, medication errors, the 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].

Unavailability of essential medicines for NCDs contributes to poor management of patients with NCDs 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 drugs used in the management of hypertension, diabetes mellitus, asthma and epilepsy in public outpatient departments (OPDs) and healthcare centres in Lesotho.

II. 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. All-inclusive sampling was employed, where all employees in managerial or acting managerial positions formed the sample size. The sample size totalled 366 and was distributed as follows: OPDs

(90) and healthcare centres (276). Respondents included all employees in managerial or acting in unfilled managerial positions for more than six months at OPDs and healthcare centres. Employees holding managerial positions or acting in a managerial capacity who were absent during the data collection process were excluded from the study. Ethical approval for the study was obtained from a licensed Health Research Ethics Committee (HREC) (Ethics number: 00048-18-A1) and the Ministry of Health Ethics Committee and Review Board of Lesotho (ID120-2018).

After obtaining ethical approval, the management at OPDs and healthcare centres was visited and informed about the study's objectives. Their permission to collect data from OPDs and healthcare centres was sought. After they gave their agreement, participants were asked to sign informed consent forms before questionnaires were administered. A direct method of distribution was employed, where hard copies of the materials were distributed to participants. This method was used because most study sites were located in remote rural areas with limited 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 participants, 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 then cleaned and analysed using the Statistical Package for the Social Sciences (SPSS) version 25. Quantitative methods were used to assess the availability of medicines used in NCDs and the frequency of NCD medicines being 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, along with 95% confidence intervals (CI) for symmetric distributions. To evaluate the availability of medicines used in NCD management, the Lesotho EML 2017 and the WHO Model List of Essential Medicines 21st list 2019 were used (refer to Table 1) [14-15].

Table I: List of Medicines used in the Management of non-Communicable Diseases as per the WHO Model List of Essential Drugs and the Lesotho Essential Medicines list

List of medicines	Lesotho EML 2017	WHO Model List of Essential Medicines 21st list 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
Sodium valproate	X	X
Carbamazepine	X	X
Diazepam		X
EML = Essential medicines list		

III. 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 (n = 10) held a bachelor's degree at the time of the study. Three respondents at OPDs worked in a district hospital located in Thaba-Tseka, and four worked in a district hospital located 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, including 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 primarily 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 II: Sociodemographic characteristics of the respondents

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		0	
	Head pharmacist	5		0	
Demographic information	**Description**	**Respondents at OPDs (N = 16), n**	**Missing responses, n**	**Respondents at healthcare centres (N = 86), n (%)**	**Missing responses, n (%)**
	Pharmacist	2	2	0	2
	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)	
	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	Government of Lesotho	11		37 (43.0)	
Demographic information	**Description**	**Respondents at OPDs (N = 16), n**	**Missing responses, n**	**Respondents at healthcare centres (N = 86), n (%)**	**Missing responses, n (%)**
your health facility	CHAL	5	0	48 (55.8)	1 (1.2)
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 perceptions of respondents at OPDs and healthcare centres regarding medicines for NCDs that were out of stock in the three months preceding the date of data collection for this study. Ten respondents at the OPDs perceived that drugs for diabetes mellitus were available; nine respondents each thought that medication for hypertension and asthma were available, and eight respondents felt that medicines for epilepsy management were also available. At healthcare centres, 73.3% (n = 63) of respondents perceived that drugs 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) of respondents perceived that medicines for epilepsy were available.

Table III: The Perception of Respondents at Health Facilities on Non-Communicable Disease Medicines Out-of-Stock in Health Facilities

	Respondents at OPDs (N = 16), n				Perception of respondents at healthcare centres (N = 86), %			
NCDs	**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)

OPDs = Outpatient departments

Table 4 presents the respondents' perceptions of the types of medicines for NCDs that were available and out of stock at OPDs in the three months preceding the data collection date for this study. Six respondents at OPDs perceived that gliclazide was available to manage diabetes mellitus. Twelve 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 inhalers and prednisolone tablets were available. Eleven respondents also indicated that the available anti-epileptic medicines were phenytoin and carbamazepine, whereas 12 respondents felt that phenobarbitone, sodium valproate, and diazepam were available. The medication at the OPDs is in line with the Lesotho EML 2017 (refer to Table 1), except prednisolone and diazepam tablets.

Table IV: The Perception of Respondents at Outpatient Departments on the Type of Available Medicines and Out-of-Stock in the Past three Months at Outpatient Departments

NCDs	Type of medicine used for NCD management	Perception of respondents at OPDs (N = 16), n					
		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		

Table 5 shows 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 believed that hydrochlorothiazide and methyldopa were available to manage hypertension. 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) showed that sodium valproate was available, 94.2% (n = 81) of respondents felt that carbamazepine was also available. 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, as shown in Table 1, except prednisolone and diazepam tablets.

Table V: The Perception of Respondents at Healthcare Centres on the Type of Medicines Available and Out-of-Stock at Healthcare Centres

NCDs	Type of Medicine used for NCD Management	Perception of Respondents at Healthcare Centres (N = 86), n (%)					
		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)	
	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)	
	Actrapid	42 (48.8)	22 (25.6)	22 (25.6)	11 (12.8)	7 (8.1)	
Hypertension	Hydrochlorothiazide	0	86(100.0)	0	37 (43.0)	4 (4.7)	
	Atenolol	0	85 (98.8)	1 (1.2)	38 (44.2)	3 (3.5)	
	Indapamide	56 (65.1)	2 (2.3)	28 (32.6)	2 (2.3)	8 (9.3)	
	Hydralazine	33 (38.4)	30 (34.9)	23 (26.7)	15 (17.4)	11 (12.8)	
	Methyldopa	0	86 (100.0)	0	40 (46.5)	0	
	Nifedipine	1 (1.2)	85 (98.8)	0	37 (43.0)	2 (2.3)	

	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)
Asthma	Salbutamol tablets	2 (2.3)	83 (96.5)	1 (1.2)	34 (39.5)	3 (3.5)	
	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)
		Perception of respondents at healthcare centres (N = 86), n (%)					
		Available			**Out-of-stock**		
NCDs	**Type of Medicine used for NCD Management**	**No**	**Yes**	**Missing responses**	**No**	**Yes**	
	Prednisolone tablets	1 (1.2)	82 (95.3)	3 (3.5)	34 (39.5)	1 (1.2)	
Epilepsy	Phenytoin	10 (11.6)	74 (86.0)	2 (2.3)	30 (34.9)	7 (8.1)	
	Phenobarbitone	6 (7.0)	78 (90.7)	2 (2.3)	31 (36.0)	8 (9.3)	
	Sodium valproate	9 (10.5)	69 (80.2)	9 (10.5)	26 (30.2)	11 (12.8)	
	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)

The perception of managers 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 leading 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) also believed that the leading supplier of medicines for NCDs to healthcare centres was the NDSO.

Table 6. The Perception of Respondents at Health Facilities 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)
OPDs = Outpatient departments; NDSO = National Drug Supply organisation						

IV. 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. The availability of NCD medicines in public health facilities in six regions of Bangladesh (Dhaka, Sylhet, Chittagong, Dinajpur, Khulna, and Barisal) was significantly lower 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, the study's findings indicated that drugs used in the management of diabetes mellitus, hypertension, asthma, and epilepsy were primarily available in the three months preceding the data collection date 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 medications published in 2017 [17]. Thus, patients with NCDs were prescribed more accessible and affordable medicines; consequently, patient experiences in Sri Lanka showed good availability and access to NCD medicines [17].

The WHO Model List of Essential Medicines 21st list 2019 is a guide for the development of national and institutional EML, which lists 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 list 2019 and the Lesotho EML 2017 [14-15]. Thus, the study's findings revealed that the types of medicines for NCDs available in public health facilities in Lesotho were safe, accessible, 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 (hydrocholorothiazide, methyldopa, atenolol, nifedipine and captopril), asthma medicines (salbutamol tablets, salbutamol inhalers and prednisolone tablets) and epilepsy medicine (phenytoin and phenobarbitone). Likewise,

in Malawi, the medicines widely available for NCDs in public health facilities include anti-epileptics such as phenobarbital sodium tablets, carbamazepine, and diazepam injection, as well as antihypertensives like hydrochlorothiazide; these medicines are listed in the Malawi EML [18]. Additionally, 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 blockers (amlodipine) for the management of hypertension [19]. These medications for hypertension were selected based on international treatment guidelines for cardiovascular disease (CVD) management, such as the WHO guidelines [19].

One way to reduce the burden of NCDs is through the availability of effective medicines for these conditions. An assessment of adult patients' perceptions in Kenya regarding the availability of medicines for NCDs revealed that most patients with NCDs in Kenya believed that medicines were not readily available at government health facilities [20]. The unavailability of drugs in government health facilities forced adult patients with NCDs to purchase medications 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 at some point in time within the past three months preceding the date of data collection. Therefore, NCDs are chronic diseases that are managed continuously with medication specific to the particular NCD a patient suffers from. The unavailability of these medicines means an interruption in the management of NCDs.

Currently, there is a leading statutory body established as a trading account of the Ministry of Health in Lesotho, known as the National Drug Supply Organisation (NDSO), which has been delegated to manage the 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's findings also revealed that the leading supplier of medicines for NCDs at OPDs and healthcare centres was the NDSO. The situation in Lesotho is similar to that in Zimbabwe, where the National Pharmaceutical Company of Zimbabwe is the national drug supplier, working in conjunction with the Ministry of Health and Child Welfare, and supplies pharmaceutical products to government health facilities [24].

There were limitations and strengths when this study was conducted. A low response rate was a limitation, as only 16 out of 90 (17.8%) managers at OPDs participated in this study, and 86 out of 276 (31.2%) managers at healthcare centres participated. The low response rate at OPDs and healthcare centres was due to a lack of personnel. Furthermore, staff transfers from one health facility to another led to participants not complying with the inclusion criteria because they had worked in the new health facility for less than six months. 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.

V. CONCLUSION

The public health facilities in Lesotho had medicines for NCDs as per the WHO Model of Essential Medicines 21st list 2019 and the Lesotho EML 2017. They infrequently ran out of medication for NCD management. Thus, it suggests that the process of procuring and distributing medicines for NCDs by public health facilities appears to be effective.

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After aggregating input from all authors, I must verify the accuracy of the following information as the article's author.

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