

ASSESSMENT OF AWARENESS OF THE AVAILABILITY AND FUNCTIONAL STATUS OF  
DRUG AND THERAPEUTICS COMMITTEE AMONG HEALTHCARE PRACTITIONERS AT  
THE NATIONAL EAR CARE CENTRE, KADUNA STATE

\*Adamu H.Y.S, Muazu M, Borobu S.G, Dikko S.U

Pharmacy Department, National Ear Care Centre, Kaduna, Nigeria

\*Corresponding Author's Email: [adamuyshussaina@yahoo.com](mailto:adamuyshussaina@yahoo.com)

DOI: [njcpt.com.ng/101.1.2.43](https://doi.org/10.1.2.43)

### Abstract

**Background:** The Drug and Therapeutics Committee (DTC) is an essential component of the healthcare system, responsible for ensuring the rational use of medicines. Effective DTCs can improve patient outcomes, reduce healthcare costs, and promote antimicrobial stewardship. However, the effectiveness of DTCs can be hampered by a lack of awareness among healthcare practitioners.

**Objective:** To assess the awareness of the availability and functional status of the DTC among healthcare practitioners in the National Ear Care Center (NECC), Kaduna, Kaduna State, Nigeria.

**Methods:** A cross-sectional questionnaire-based study was conducted among Physicians, Pharmacists, Nurses and Medical Lab Scientists in the National Ear Care Centre, Kaduna in 2022. The questionnaire used was a standard instrument developed by the World Health Organization (WHO) and Management Sciences for Health (MSH), (2007) to assess healthcare practitioners' knowledge of the DTC, its existence, composition, functions, and its activities. Data was collected through administering a hard copy of the questionnaire to the respondents and completed copies were used for data analysis. A descriptive analysis for demographic variables was computed and relationships between the demographic profile of healthcare professionals and the responses of respondents were explored using the Chi-square test. A *p*-value of less than 0.05 was considered significant.

**Results:** A total of 64 healthcare practitioners participated in the study. The majority (84.4%) of respondents were unaware of the DTC. However, only 19.4% of respondents were able to correctly identify all of the DTC's functions. Additionally, only 9.4% of respondents reported that the DTC meets regularly, and only 14.1% of respondents are aware of any major accomplishment of the DTC.

**Conclusion:** The findings suggest that awareness of the DTC's availability and functional status among healthcare practitioners at the NECC is suboptimal. This lack of awareness could potentially hinder the DTC's effectiveness in optimizing medication use at the facility.

**Keywords:** Drug and Therapeutic Committee DTC, Healthcare Practitioners, Awareness, functional status, Hospital

### Introduction

According to the World Health Organization (WHO), the goal of the Drug and Therapeutic Committee (DTC) is to ensure that patients are provided with the best possible cost-effective and quality care by determining what medicines will be available, at what cost, and how they will be used<sup>[1]</sup>.

A DTC is an important tool for improving healthcare delivery because it is used to determine the hospital formulary and the addition and deletion of new pharmacotherapeutic and diagnostic agents for the hospital. This committee typically consists of a multidisciplinary team of pharmacy, physician, nursing and hospital clinical and administrative leadership<sup>[2,3]</sup>

In Nigeria, there is considerable evidence regarding the inappropriate use of medicines. This is a concern since out-of-pocket payments currently constitute the major component of healthcare expenditure, negatively impacting available choices of medicines to effectively treat both infectious and non-communicable diseases<sup>[4,5]</sup> Consequently, any initiative that would positively impact on rational use of medicine (RUM) in Nigeria should be a priority for the country. In this regard, the role of functional DTCs cannot be overemphasized. The National Drug Policy of Nigeria recognizes DTCs as a vital component with initial targets of institutionalizing the committees in secondary and tertiary

healthcare facilities (FMOH NDP, 2016) [6]. However, presently there is little information regarding the presence and functionality of DTCs in hospitals or other healthcare facilities in Nigeria. This lack of information was the basis for this study. Therefore, the objective of this study was to assess the awareness of the availability and functional status of the DTC among healthcare practitioners in the National Ear Care Centre (NECC), Kaduna State, Nigeria.

## Methods

### *Study Design/ Study Settings*

A cross-sectional survey was conducted, using a structured questionnaire to assess the awareness, knowledge and functional status of the Drug and Therapeutics Committee (DTC) among Healthcare Practitioners in the National Ear Care Centre, Kaduna State, Nigeria. It is Nigeria's only specialist hospital for ear, nose, and throat specialty diagnosis, treatment, and research. It offers various services including surgeries, audiology, school hearing screening, speech therapy, laboratory, endoscopy, radiology, and pharmaceutical services.

### *Ethical Consideration*

Ethical clearance was obtained from the ethics and research Committee of the National Ear Care Centre Kaduna (NECC/ADM/214/236)

All study participants were orally informed about the objectives and anonymity of the study, and informed consent was obtained from them before the commencement of the interview. All data collected were kept confidential.

### *Study Population*

The population of the study includes all available Healthcare practitioners of the National Ear Care Centre (NECC), including Physicians, Pharmacists, Nurses and Medical Lab scientists who were willing to participate in the study.

### *Sample Size determination*

The sample size for this survey was calculated using the Cochran formula for sample size determination for cross-sectional surveys. The calculated sample size was 95 respondents, we hypothesised that with a 95% confidence interval, 50% of the respondents would have a satisfactory awareness of the availability of DTC and its functional status in NECC, and 10% contingency was added to the sample size. Thus, a minimum of 105 respondents were targeted from the healthcare professionals. Respondents were recruited using the convenience sampling method. However, only 64 of the respondents completed the questionnaire giving a response rate of 61%

### *Study Instrument*

The questionnaire was adapted from a standard instrument developed by the World Health Organization (WHO) and Management Sciences for Health (MSH) (WHO and MSH, 2007) [7]. The first part of the questionnaire obtained sociodemographic characteristics (age, sex, education, professional cadre, Rank, and years of experience of the healthcare professional. The second part was to assess knowledge of DTC, which had six (6) items with a dichotomous answer, and awareness of current DTC operations and to identify gaps in functions and/or areas for improvements was assessed using a Likert scale containing fourteen (14) items. The questionnaire was pre-tested in NECC among 20 healthcare workers to check for clarity of questions and to eliminate repetitive and ambiguous questions. Cronbach's alpha statistic was also employed to measure the reliability of the study instrument which was 0.964

Sampling was done using convenience sampling because it was easy to implement and the population of the institution is relatively small.

*Data Collection Procedure*

The questionnaires were distributed in hard copy to the participants. A representative of each healthcare cadre was identified and given a hard copy of the questionnaire to distribute to their staff. The completed questionnaire was collected from the representative person.

*Data Analysis*

Data analysis was carried out using the IBM Statistical Package for the Social Sciences (SPSS) Version 22 software. Frequency distribution tables were generated for all categorical variables. The mean and standard deviation (SD) were computed for continuous study variables. Chi-square analysis was conducted to test the association between independent variables and the outcome variables, which were responses from the questionnaire at a 95% confidence interval (CI) and statistical significance set at  $p < 0.05$ .

**Results**

The demographic characteristics of the 64 study participants are shown in table 1 below. Twenty-three (35.9%) participants have above 10 years of working experience and thirty-eight (59.4%) of the participants were females. Among the healthcare practitioner's majority were the physicians (42.2%)

*Table 1: Demographic characteristics of study participants N= 64*

	Variable	Frequency (n) 64	Percentage (%)
Gender	Male	26	40.6
	Female	38	59.4
Profession	Physician	27	42.2
	Pharmacist	13	20.3
	Nurse	17	26.6
	Med lab Scientist	7	10.9
Level of Education	Diploma	6	9.4
	Bachelor Degree	27	42.2
	Postgraduate	24	37.5
	Fellowship	7	10.9
Rank	Intern	2	3.1
	Medical Officers	10	15.6
	Senior Officers	22	34.4
	Principal Officers	7	10.9
	Chief Officers	5	7.8
	Resident	12	18.8
	Consultant/Clinical Specialist	6	9.4
Years of experience	0-5 years	20	31.3
	5- 10 years	21	32.8
	10years and above	23	35.9
	10years and above	23	35.9

*Assessment of awareness of the availability of DTC in NECC among healthcare professionals*

The assessment of the awareness of the availability of the Drug and Therapeutic Committee among healthcare professionals in the National Ear Care Centre found to very poor majority (79.7%) of the respondents were not really aware of the availability of DTC in the facility.

Table 2: Assessment of awareness of the availability of DTC in NECC among healthcare professionals

	Very Unaware	Unaware	Not Aware	Aware	Very aware
Are you aware of DTC in this hospital?	12 18.8%	29 45.3%	9 14.1%	12 18.8%	2 3.1%
Are you aware of a subcommittee on Antimicrobial	12 18.8%	33 51.6%	11 17.2%	7 10.9%	1 1.6%
Are you aware of a subcommittee on infection control	9 14.1%	27 42.2%	11 17.2%	13 20.3%	4 6.3%
Are you aware of any guidelines or procedures that regulate the functions of the DTC	14 21.9%	29 45.3%	13 20.3%	6 9.4%	2 3.1%
Are you aware of how many members attend the DTC meetings?	12 18.8%	26 40.6%	14 21.9%	11 17.2%	1 1.6%
Are you aware of who serves as the chairperson of the committee	13 20.3%	27 42.2%	16 25.0%	6 9.4%	2 3.1%
Are you aware of who serves as the secretary on the committee	14 21.9%	28 43.8%	14 21.9%	6 9.4%	2 3.1%
Are you aware of how many times the committee meet	11 17.2%	29 45.3%	15 23.4%	8 12.5%	1 1.6%
Are you aware of what topics are covered in the regular meetings of DTC	14 21.9%	30 46.9%	14 21.9%	5 7.8%	1 1.6%
Are you aware of any medicine formulary in this facility	10 15.6%	29 45.3%	15 23.4%	8 12.5%	2 3.1%

A high percentage (75.8%) of the healthcare practitioners were not aware of the functional status of the committee in the facility.

*Assessment of the Functional status of DTC in NECC*

Statements	Very unaware	Unaware	Not Aware	Aware	Very Aware
Are you aware of any established methods for periodically evaluating the use of medicines in the hospital	10 15.6%	28 43.8%	14 21.9%	11 17.2%	1 1.6%
Are you aware of any moment that the committee detected any problems in the use of medicines	11 17.2%	33 51.6%	10 15.6%	9 14.1%	1 1.6%

Are you aware of any program or strategy the DTC have employed to improve pharmaceutical use problems	9 14.1%	32 50.0%	12 18.8%	9 14.1%	2 3.1%
Are you aware of any major accomplishments of the committee	12 18.8%	32 50.0%	11 17.2%	8 12.5%	1 1.6%

The majority of the respondents are not aware of the availability of DTC in the hospital even though about 92.6% of the physicians are aware of who the chairperson of the committee is and the majority of the physicians are aware of who the secretary of the committee is, how many times they meet and aware of the medicine formulary in the facility.

However, there was a statistically significant relationship between the statement and the respondent's profession on the awareness of the availability of DTC in the facility using non-parametric Chi-square analysis the details are in Table 3 below.

Table 3: Evaluation of the association between the overall awareness of the availability of DTC and healthcare professionals in NECC

Statement	Professions								P value
	Physicians n= 27		Pharmacist n=13		Nurses n=17		Medical Lab Scientist n=7		
	Aware	Unaware	Aware	Unaware	Aware	Unaware	Aware	Unaware	
Are you aware of DTC in this hospital	5 (18.5%)	22(81.5%)	5 (38.5%)	8(61.5)	4 (23.5%)	13(76.5%)	0 (0%)	7(100%)	≤0.0001*
Are you aware of a subcommittee on Antimicrobial	4 (14.8%)	23(85.2%)	1 (7.7%)	12(92.3)	2 (11.8%)	15(88.2%)	1(14.3%)	6(85.7%)	≤0.0001*
Are you aware of a subcommittee on infection control	6 (22.2%)	21(77.8%)	3 (23.1%)	10(76.9%)	4(23.5%)	13(76.5%)	4(57.1%)	3(42.9%)	≤0.0001*
Are you aware of any guidelines or procedures that regulate the functions of the DTC	3 (11.1%)	24(88.9%)	2 (15.4%)	11(84.6%)	2 (23.5%)	15(88.2%)	1(14.3%)	6(85.7%)	≤0.0001*
Are you aware of how many members attend the DTC meetings	23(85.2%)	4(14.8%)	9(69.2%)	4(30.8%)	15(88.2%)	2(11.8%)	5(71.45)	2(28.65)	≤0.0001*

Are you aware of who serves as the chairperson of the committee?	25(92.6%)	2(7.4%)	9(69.2%)	4(30.8%)	16(94.1%)	1(5.9%)	6(85.7%)	1(14.3%)	≤0.0001*
Are you aware of who serves as the secretary on the committee?	24(88.9%)	3(11.1%)	10(76.9%)	3(23.1%)	14(82.4%)	3(17.7%)	5(71.4%)	2(28.6%)	≤0.0001*
Are you aware of how many times the committee meet?	23(85.2%)	4(14.8%)	10(76.9%)	3(23.1%)	16(94.1%)	1(5.9%)	6(85.7%)	1(14.3%)	≤0.0001*
Are you aware of what topics are covered in the regular meetings of DTC?	23(85.2%)	4(14.8%)	12(92.3%)	1(7.7%)	16(94.1%)	1(5.9%)	7(100%)	0	≤0.0001*
Are you aware of any medicine formulary in this facility?	21(77.8%)	6(2.2%)	11(84.6%)	2(15.4%)	15(88.2%)	2(11.8%)	7(100%)	0	≤0.0001*

---

\*Indicates that there is a significant association between the level of awareness of the availability of DTC and the healthcare profession

## Discussion

The result from this survey showed that a high percentage of respondents were not aware of the functional status of the committee's activities and impact on patient care, this indicates that only a few were aware of the availability of the Drug and Therapeutic Committee and its functional status among the healthcare professionals at National Ear Care Centre.

This result is similar to the study of Fadare *et al.* in 2018 where 60% of the Tertiary health facilities in Nigeria had suboptimal availability and functionality of DTC [8]. This is really of concern, as this committee plays an important role in ensuring the appropriate use of medicines and improving patients' outcomes. This result highlights the need for targeted communication and education efforts to improve healthcare professionals' understanding of the DTC and its role in patient care.

A policy should be established to revive or reestablish the DTC in the hospital with clear directives enforced as a managerial intervention to pave the way for formulation of a hospital-based formulary, and constitution of key subcommittees such as Antimicrobial stewardship, Pharmacovigilance, etc. Moreover, the result underscores the importance of regular monitoring and evaluation of the DTC program to ensure its effectiveness and identify areas for improvement. This could include tracking the committee's activities, assessing its impact on patient care, and soliciting feedback from healthcare professionals to identify areas for improvement.

In evaluating the association between the profession of the respondents and the level of awareness of the availability of DTC in the facility it is interesting to note that the Physicians were more aware of the committee and the medicine formulary in the facility compared to other healthcare professionals. This could be due to their direct involvement in patient care and prescribing medications. The statistically significant relationship between the respondent's profession and their awareness of DTC

availability implies that certain healthcare professionals might need more targeted communication or training about the program.

### Conclusion

The study findings level of awareness on the availability of DTC and its functional status among health care professionals in NECC is very low 15.6% and 19.4%. This has important implications in healthcare practice in National Ear Care Centre Kaduna and beyond which suggest that healthcare practitioners may not be fully aware of the importance of DTC in ensuring safe and effective medication use. This could lead to medication errors and adverse drug events, which could harm the patients.

### References

1. World Health Organization (WHO): Drug and therapeutics committees: vehicles for improving rational drug use. *Essential Drugs Monitor*, No.32, 2003; 10.
2. Tyler LS, Millares M, Wilson AL, Valentino A, Cole SW, Com P. ASHP statement on the Pharmacy and Therapeutics Committee and the formulary system. *Am J Heal Pharm*. 2008;65(24):2384-6
3. Abazia DT, Anderson P, Azzopardi LM, Baker KR, Besier JL, Bootman JL, et al. ASHP statement on the pharmacy and therapeutics committee and the formulary system. *Am J Heal Pharm*. 2008;65(24):2384-6
4. Odeyemi, I., Nixon, J. Assessing equity in health care through the national health insurance schemes of Nigeria and Ghana: a review-based comparative analysis. *Int J Equity Health* **12**, 9 (2013). <https://doi.org/10.1186/1475-9276-12-9>
5. Fadare JO, Adeoti AO, Desalu OO et al. The prescribing of generic medicines in Nigeria: knowledge, perceptions and attitudes of physicians. *Expert review of pharmacoeconomics & outcomes research*. 2016;16(5):639-50.
6. Federal Ministry of Health Nigeria. National Drug Policy - Nigeria. Available at <http://collections.infocollections.org/whocountry/en/d/Js6865e/8.html>
7. Management Sciences for Health and World Health Organization. 2007. Drug and Therapeutics Committee Training Course. Available at URL: [http://www.who.int/medicines/technical\\_briefing/tbs/Trainer-s-Guide-All-Sessions.pdf](http://www.who.int/medicines/technical_briefing/tbs/Trainer-s-Guide-All-Sessions.pdf).
8. Fadare, J., Ogunleye, O., Obiako, R., Orubu, S., Enwere, O., Ajemigbitse, A., Meyer, J., Enato, E., Masseur, A., Godman, B., & Gustafsson, L. (2018). Drug and therapeutics committees in Nigeria: evaluation of scope and functionality. *Expert Review of Clinical Pharmacology*, 11, 1255 - 1262. <https://doi.org/10.1080/17512433.2018.1549488>.