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Original Article

Assessing prescriber's awareness of essential medicine list, hospital drug formulary and utilization of standard treatment guidelines in a tertiary healthcare facility in North-Central Nigeria

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1. Introduction

Access to healthcare is a fundamental human right that has been enshrined in international treaties and recognized by governments around the world.^{1–3} However, this fundamental right to health cannot be fulfilled when prescribers fail to comply with the Standard Treatment Guidelines (STG).

The STG is a list that contains the preferred pharmaceutical and nonpharmaceutical treatments for common health problems experienced by people in a specific health system. For each health problem, the pharmaceutical treatment is mentioned along with the dosage form, strength, average dose (pediatric and adult), number of doses per day, and number of days of treatment.⁴ STG are used at different points of the therapeutic process. They may be used to diagnose, decide on treatment and pharmaceutical supply, and assist with adherence to the prescribed treatment thereby leading to the desired clinical outcome.⁴

The utilization of STG is necessary for therapeutically effective and economically efficient use of medicines.⁴ When implemented effectively, an STG offers advantages to all stakeholder: patients (e.g., it provides more consistency and treatment efficacy), Healthcare providers (e.g., it gives an expert consensus, quality of care standard, and basis for monitoring), supply managers (e.g., it makes demand more predictable and allows for prepackaging), and health policy makers (e.g., it provides focus for therapeuticintegration of special programs and promotes efficient use of funds).⁴ For health care providers, it actually provides standardized guidance to practitioners; encourages high quality care by directing practitioners to the most appropriate medicines for specific conditions; encourages the best quality of care since patients are receiving optimal therapy; utilizes only formulary or essential medicines, so the health care system needs to provide only the medicines in the STGs; provides valuable assistance to all practitioners,

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especially to those with lower level skills like Primary Heath Care workers; enables providers to concentrate on making the correct diagnosis because treatment options will be provided for them.⁴

Presently, STG are in use in parts of the United States of America, Europe, Latin America, Asia, Africa, and the Western Pacific.⁴ In Nigeria, the first edition of the national STGs was published in 2008 by the Federal Ministry of Health in collaboration with World Health Organization and DFID (Department for International Development).⁵ However, Kaduna state was the first of thirty-six Nigerian states to prepare a STG for the purpose of streamlining clinical practices within its healthcare delivery system.⁶ Its maiden edition of STG was published in 2012 in collaboration with PATHS 2 (Partnership for Transforming Health Systems 2) and DFID. Unlike Kaduna state, Nassarawa state (where our study facility is located) has no state STG but uses the national STG.

Effective implementation, however, is perhaps the greatest challenge in introducing STGs.⁴ One of the factors impeding implementation of STGs is that they are not always available in wards/ healthcare centres even when nationally produced.⁷ Other challenges facing STGs is that of conflict of interes. Several studies have shown that conflicts of interest do affect the development process of clinical practice guidelines in several countries especially influence by pharmaceutical companies.^{8–10} For example, the study conducted by Cosgrave et al, revealed that the prevalence of conflicts of interest among guideline development panel members was high. Financial ties to industry were disclosed by all members (100%) of the guideline development committee with members reporting a mean 20.5 relationships (range 9–33). Most of the committee members participated on pharmaceutical companies' speakers' bureaus.⁸

Essential Medicine List is a list of minimum medicines that are needed for a basic health-care system. The list contains the most efficacious, safe and cost–effective medicines for priority conditions.¹¹ The List is promoted by the World Health Organization (WHO) as a means to facilitate equality in access to medicines across the globe. It has been created to satisfy the priority health care needs of societies in terms of availability and affordability of

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efficacious medicines.¹² A study by Bazargani et al revealed that EMLs have influenced the provision of medicines and have resulted in a higher availability of essential medicines compared to nonessential medicines particularly in the public sector and in low and lower middle income countries.¹³ The findings revealed that the overall median availability of essential medicines for any product type was 61.5% while the availability of non-essential medicines was 27.3%. In the public sector, the median availability of essential and non-essential medicines was 40.0% and 6.6% respectively for any product type.¹³ Availability also differ across income groups: in upper-middle income countries the availability of originator brands was considerably higher than other income groups both for essential and non-essential medicines (40% availability in both groups). Median availability of the two groups of medicines (essential vs. non-essential) differed significantly in low and lowermiddle income countries for any product type of medicines (Difference = 25% and 11.3% respectively: p. 0.05).¹³

One justification for including Hospital Drug Formulary (HDF) in the study is that, just like EML, it is another document that is important to both prescribers and patients in a hospital setting. It is a continuously revised compilation of pharmaceutical dosage agents with its important information which reflects the current clinical judgment of the medical staff. The hospital formulary system is a method whereby the medical staff of a hospital with the help of pharmacy and therapeutic committee selects and evaluate medical agents and their dosage form which are considered to be most useful in the patient care. It provides information for procuring, prescribing, dispensing and administration of drug under non proprietary names and instance where drugs have both names.¹⁴

Our study facility has a Drug and Therapeutics Committees (DTC) that was established in 2016. The DTC has five sub-committees (Policy and Guidelines; Pharmacovigilance and Drug Information; Drug Formulary; Drug Utilization Review and Need Quantification; Publicity) and all the sub-committees have five members, excluding Drug Formulary which has seven. The DTCs has been functioning sub optimally, which is a common problem with DTCs in Nigeria where only half (50%) of the DTCs meet regularly¹⁵ and often times, this is due to lack of local expertise or a lack of incentives.¹⁶

This study was conducted to assess Prescriber's awareness of Essential Medicine List, Hospital Drug Formulary and utilization of STGs in a tertiary healthcare facility in North-Central Nigeria. It is the first of its kind in the study facility, and a search in all recognized internet search engines (using the research topics) revealed that the work has never been undertaken by any scholar.

2. Methods

A cross-sectional descriptive study conducted in a 300 bed tertiary healthcare facility, situated in Keffi town which is approximately 68 km from Abuja, Nigeria's federal capital territory. It is 128 km from lafia town which is the state capital of Nasarawa state. Keffi is located between latitude 8°5'N of the equator and longitude 7°8'E of the Greenwich meridian and is situated on an altitude of 850 m above sea level.¹⁷ The study population comprises 70 Medical Doctors who were prescribers and within the cadre of Medical Officers, Registrars and consultants in various clinics of the hospital. A Sample size of 70 was obtained using the formula $n = z^2 pq/d^2$. Respondents were selected using simple random sampling technique in which the staff list served as the sampling frame. Proportionate allocation technique was used to select respondents from the 3 different cadres. A structured, pretested self-administered questionnaire was used for data collection. The questionnaire assessed the socio-demographic profile of respondents and their Awareness of Essential Medicine List, Hospital Drug Formulary and Prescribing using generic names. Data concerning availability and utilization of STGs were gathered using a check-list. The variables in the questionnaire were selected based on rational drug use studies.^{18–20} The questionnaire was pretested on 10 randomly selected prescribers in National Hospital, Abuja, Nigeria, a tertiary health facility with similar characteristics with the study area and 69.6 km away from study area.

The administered questionnaires were analyzed using SPPS statistical software (version 20). Ethical clearance for the study was obtained from the Human Research and Ethics Committee of Federal Medical Centre, Keffi, Nigeria (Reference number: FMC/KF/ HREC/083/15).

3. Results

As shown in Table 1, a total of 70 respondents participated in the study. Majority (52.9%) of the respondents were in the age group of 31–40 years and were mostly males (71.4%). Most of the respondents (52.9%) were in service for 5 or less than 5 years while 34.3% were in service between 6 and 10 years. Only a small proportion of the respondents (8.6%) have served for 11–15 years while those that served for 16 or greater than 16 years constitute just 4.3%. In terms of cadre, majority of the respondents (50%) were Medical officers, while 44.3% were registrars and 5.7% were Consultants. In terms of specialty, 22.9% were in Family Medicine; 18.6% were in specialty clinics; 17.% were in Internal Medicine; 14.3% were in Obstetrics and Gynaecology; 10% were in paediatrics; 7.1% were in Accident and Emergency; 7.1% were in dental Surgery; 1.4% were in Surgery unit and 1.4% were in Ear, Nose & Throat (ENT) unit.

As shown in Table 2, majority of the respondents (51.4%) were aware of EML, 35.7% were not aware of it, while 10% were not sure. Regarding possession of an EML, majority of the respondents (77.1%) claim to have a copy of it while 15.7% do not have a copy. Only 2.9% were not sure if they have a copy. As regards HDF, 41.4% of respondents were aware of it while 31.4% were not aware of it. Only 5.7% of respondents were not sure of HDF. As for possession of

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Socio-demographic Characteristics of respondents.

| Variable | Frequency (n = 70) | Percent (%) |
|------------------------------|--------------------|-------------|
| Age (years) | | |
| 21-30 | 26 | 37.1 |
| 31-40 | 37 | 52.9 |
| >40 | 7 | 10 |
| Gender | | |
| Female | 20 | 28.6 |
| Male | 50 | 71.4 |
| Years of service | | |
| 0-5 | 37 | 52.9 |
| 6–10 | 24 | 34.3 |
| 11-15 | 6 | 8.6 |
| >15 | 3 | 4.3 |
| Cadre | | |
| Medical Officer | 35 | 50 |
| Registrar | 31 | 44.3 |
| Consultant | 4 | 5.7 |
| Area of practice | | |
| Ear Nose & Throat (ENT) | 1 | 1.4 |
| Surgery | 1 | 1.4 |
| Dental Surgery | 5 | 7.1 |
| Accident and Emergency (A&E) | 5 | 7.1 |
| Paediatrics | 7 | 10 |
| Obstetrics & Gynaecology | 10 | 14.3 |
| Internal Medicine | 12 | 17.1 |
| Specialty clinics | 13 | 18.6 |
| Family Medicine (GOPD) | 16 | 22.9 |

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