

Journal of
**PHARMACOLOGY AND
TROPICAL THERAPEUTICS**

VOLUME 1 NO. 1 MARCH, 2010



DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS
Ahmadu Bello University, Zaria - Nigeria.

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IDENTIFICATION OF PHARMACEUTICAL CARE STANDARDS IN ZARIA-KADUNA METROPOLIS, NORTHERN NIGERIA

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ABSTRACT

The objective of this study was to identify standards that can be effectively applied in implementing pharmaceutical care (PC) practice in Nigeria. A cross sectional study of Pharmacists in Academia, Hospital and Community Pharmacy practice areas in Zaria-Kaduna metropolis was carried out in 2005. A total of 100 Pharmacists in the three practice areas earlier mentioned were involved in the study. A self administered questionnaire constructed based on the 52 suggested practice standards obtained from the round one discussion by the Delphi panel of PC experts was administered to the total population of Pharmacists (100) in the three practice areas. The Pharmacists were requested to indicate whether or not each of the standards were feasible, relevant, being currently applied or intended to be applied in their own practice settings. Out of the 100 copies of the questionnaires distributed, 68 (68%) were retrieved. The average proportion of positive responses to each of the standards was as follows: feasibility-66.5%, relevance-76.8%, currently apply it-38.6% and intend to implement-28.6%. Forty five (45) out of the fifty two (52) standards were identified for application by the Pharmacists. Consequently, the Pharmaceutical Care standards that can be effectively applied in improving effective pharmaceutical services in Zaria-Kaduna metropolis have been identified. The identified 45 standards are most likely to stimulate the widespread implementation of pharmaceutical care in Nigeria if seriously addressed by the Pharmacists Council of Nigeria and Nigerian Pharmacists.

Keywords: Identification, Pharmaceutical Care, Pharmacists, Practice Standards, Delphi, Zaria-Kaduna.

INTRODUCTION

An adequate pharmaceutical care service provided by pharmacists is a vital component of primary health care. This is recognized by the World Health Organization (WHO) as several of its publications emphasize the important role of the pharmacist in health care delivery (WHO Report 1993, 1994 & 1997). Pharmaceutical care is a process in which a pharmacist co-operates with a patient and other professionals in designing, implementing and monitoring therapeutic outcome for the patient. These outcomes include cure of disease, elimination or reduction of a patient's symptom, arresting or slowing of a disease process or preventing of a disease or symptom. Pharmaceutical care involves identifying, resolving and preventing drug related problems (Hepler and Strand, 1990). According to Hepler and Strand, it is 'the responsive provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life'. This definition has accorded the care a wide variety of meaning to researchers and pharmacy practitioners. Its operational definition range from the mandatory counseling to patient assessment and the development of patient care plans. Many more definitions have now emerged and Cipolle and his colleagues have redefined it as 'a practice in which the practitioner takes responsibility for a patient's drug related needs and he is held accountable for this commitment'. This

latter definition has three components which includes, philosophy of practice, a patient care process and a practice management system. Most major pharmacy organizations in developed countries such as the American Pharmaceutical Association (APhA, 1992) and the American Society of Health System Pharmacists (ASHP, 1993) have since adopted the pharmaceutical care philosophy.

In Nigeria, pharmaceutical care concept evolved from clinical pharmacy which evidently emerged around 1980 in the University of Benin, Benin City (Erah and Eboka, 2008). The philosophy has achieved great success in the care of patients in the United States and elsewhere including Nigeria. Patients now get better care from pharmacists. The pharmacist, patient and health care managers are thus delighted about the initiative. However, among pharmacists in Nigeria, pharmaceutical care is often discussed in continuing professional education programs and in conferences. It is only yet considered as a model that needs to be implemented in the health care system. Admittedly, the standard of Pharmacy practice in Nigeria is not the same as it is in most other countries. If nothing else, the practice settings are different. One of the interesting things about health care in Nigeria is that, private patients entering the hospitals have to pay for their own food, beddings, medical supplies, drugs and other products essential to proper healing. In many cases patients or their families have no money to pay for

these necessities. Other factors that are potential barriers to pharmaceutical care include: inadequate time to talk with the patient, lack of private counseling environment in the pharmacy unit or department, inadequate training, pharmacist's perception that patients are not willing to pay for the intensive level of care and trepidation regarding the reaction of physicians (Swift, 1993; May, 1993; Iouie and Robertson, 1993; Larson, 2000). These factors are not only compromising the early implementation of pharmaceutical care in hospitals and community pharmacies in Nigeria but also have negative consequences on the impact of clinical pharmacy practice in the health care system in Nigeria. Despite these problems, pharmaceutical care poses great challenges before the pharmacy profession in Nigeria. These challenges need to be addressed in order to move the care from a theoretical statement as it is now in Nigeria to an operational level. It is worth noting that, pharmaceutical care exists independent of practice settings (Hepler and Strand, 1990).

A Delphi Panel of pharmaceutical care experts has suggested 52- practice standards upon which a consensus was arrived at in the United States. This opens a lead way for the identification of standards that can effectively be applied in pharmacy practice in Nigeria. Application of practice standards that are practicable can result in enhancement of clinical, economic and humanistic outcomes of patient care, which will improve health related quality of life (Laucka and Hoffman, 1992).

The primary intent of this study was to identify standards that can be effectively applied in implementing pharmaceutical care practice in Zaria-Kaduna metropolis of Nigeria. The study would also assess practice standards that are feasible, relevant and currently being applied or intended to be applied in Zaria-Kaduna metropolis, Nigeria. The study was however limited to Registered Pharmacists in Kaduna (capital of Kaduna State) and Zaria (second major city in Kaduna State) in the community, hospital and academic settings.

MATERIALS

The study was carried out in Kaduna-Zaria metropolis. Kaduna State is located in the North Central geopolitical zone of Nigeria with an estimated total population of over a million people. Kaduna metropolis is home to a number of health care centres such as the Barau Dikko Specialist Hospital, several state owned General Hospitals, 44 Army Reference Hospital and a total of about 80 Community Pharmacies amongst others. On the other hand, health facilities in Zaria town include, Faculty of Pharmaceutical Sciences Ahmadu Bello University Zaria, Ahmadu Bello University Teaching Hospital Shika Zaria, state owned General Hospital, Ahmadu

Bello University Sick Bay and about 28 Registered Community Pharmacies. All these institutions have pharmacy departments under the supervision of Registered Pharmacists.

METHOD

The study was carried out within a period of 4-6 months. This covered the period of advocacy and penetration of the different pharmacy departments of all three practice areas and also gives the respondents adequate time to read, understand and fill-out the questionnaires. The period also included time for follow up and retrieval of the questionnaires.

Qualified and legally registered pharmacists who practice in the community pharmacies, hospital and academic practice settings in Kaduna-Zaria metropolis constituted the study population. The list of registered pharmacists in these areas was obtained from the State Ministry of Health. This was found to be 100 in number. Furthermore, a list of pharmacists practicing in the selected private and Government owned hospitals whose pharmacies are under the control of pharmacists was made. Similarly, a list of superintendent pharmacists in charge of various pharmaceutical premises (community pharmacies) was also obtained. Finally, a list of academic pharmacists with the Faculty of Pharmaceutical Sciences, Ahmadu Bello University Zaria, which is the only academic pharmacy practice setting, was obtained also from the State Ministry of Health. All these practice areas were visited to interact with the pharmacists.

The study was designed as a cross-sectional study using self administered questionnaires constructed based on the 52 suggested practice standards obtained from the round one discussion by the Delphi Panel of Pharmaceutical care experts. The Delphi technique refers to 'a systematic procedure for arriving at a reasoned consensus' (Helmer, 1966). It involves iterations of opinion questionnaires with an expectation of convergence of opinion. This technique has the benefit of objectivity via statistical group response.

The questionnaire was made up of two sections. In section one, personal data of the volunteer such as age, gender, qualifications, practice area, experience etc was sought. The second section contained the 52 suggested standards with columns for the respondents to indicate feasibility, relevance, currently being applied or intention to implement. 100 copies of the questionnaires were distributed to qualified pharmacists located in the three practice areas in Kaduna-Zaria metropolis. The subject was introduced and the purpose of the study was discussed with each pharmacist. They were educated on the questionnaire format and how to indicate the desired responses to each of the 52 suggested standards and also how to fill

the personal data section. This was done in order to prevent errors in responses. Copies of the questionnaires were left with each participant pharmacist who voluntarily accepted to participate in the study. The participant was allowed 2-4 weeks with the questionnaire and then retrieved. During this period each pharmacist was visited 3 times to check on the progress in answering the questionnaires. Those who were still unable to fill up the questionnaires within this time frame were considered non respondents.

Each questionnaire used in the study was appropriately coded for easy reference. The responses from the study were fed into computer software, Statistical Program for the Social Sciences (SPSS) and double checked to ensure accurate data entry. The data were analyzed in terms of demographic characteristics, professional experience, qualification and practice areas using frequencies and percentages as appropriate. In analyzing the responses on current application and intention to apply the practice standards, only responses from pharmacists working in hospitals and community pharmacies were considered. *Chi-square* test was adopted in estimating possible differences in proportions. Analysis of variance was used to determine differences between the age of the pharmacists, years of professional experience, qualification, practice areas and the responses to the suggested practice standards. At a confidence interval of 95%, a two tailed probability (p) value less than or equal to 0.05 was considered to be significant.

RESULTS

Out of the 100 copies of questionnaires distributed to the pharmacists in the three practice areas, 68 (68%) were completed and returned within 2-4 weeks. The remaining 32 were considered non respondents.

Age distribution of pharmacists

The result indicated that most of the respondents were young pharmacists within the age range 21-40 (Table 1). The lowest proportion of respondents was in the age range > 60 years.

Gender distribution of pharmacists

In the study, gender balance was not achieved as there were more male (70.6%) than female (29.4%) respondents (Table 2).

Qualification of pharmacists

Majority of the respondents in the study (58.8%) hold only a first degree in Pharmacy. The rest had higher training including PhD (Table 3).

Practice area of pharmacists

An almost equal percentage exists among pharmacist respondents in the three practice areas selected for the study (Table 4). Hospital pharmacists had 35.3%, community pharmacists 33.8 % while academic pharmacists had 30.9%.

Years of experience of pharmacists

The data revealed that most of the respondents Pharmacists (52.9%) had only a brief experience in pharmacy practice (1-5 years). A sizeable proportion also had less than 10 years experience (Table 5).

Responses to the 52 suggested practice standards

Analysis of data obtained revealed that with respect to feasibility of applying the 52 suggested practice standards, the average positive response was 66.5%. The highest responses (75.6%) were on suggested standards 10, 12, 18 and 20 of the 52 suggested practice standards. On the question of relevance of each practice standard, the average positive response was 76.8%. No less than 50% of the respondents judged all the initial 52 suggested practice standards to be both feasible and relevant. However, no less than 60% of the respondents judged 45 of the suggested practice standards to be both feasible and relevant. The response on current application of each of the standards was generally low (38.6%) as compared to feasibility and relevance of the practice standards (Table 6).

Table 1: Age Distribution of Pharmacists

AGE (years)	Number (N)	N %
21-30	28	41.2
31-40	22	32.4
41-50	12	17.6
51-60	5	7.4
60	1	1.5
TOTAL	68	100

Table 2: Gender Distribution of Pharmacists

GENDER	Number (N)	N%
Male	48	70.6
Female	20	29.4
TOTAL	68	100.0
QUALIFICATION	Number(N)	N%

Table 3: Qualification of Pharmacists

Bachelors Degree (BPharm.)	40	58.8
Bachelors and Masters Degree in Pharmacy	18	26.5
BPharm. and Masters Degree in Business Administration	2	2.9
BPharm. and Masters Degree in Public Health	2	2.9
BPharm., MSc and PhD	6	8.8
Total	68	100

Table 4: Practice area of Pharmacists

PRACTICE AREA	Number(N)	N%
Academic	21	30.9
Community	23	33.8
Hospital	24	35.3
TOTAL	68	100

Table 5: Average Responses of Pharmacists to the 52 Suggested Practice Standards

PRACTICE STANDARD	% POSITIVE RESPONSE	MEAN±SEM	RANGE
Feasibility	66.5	34.5±16.5	1-52
Relevance	76.8	39.9± 15.1	1-52
Currently Applied	38.6	20.1± 9.6	0-37
Intend to Implement	28.6	14.9± 4.3	0-50

DISCUSSION

Drug therapy with prescribed medication is a collaborative process involving the patient, physician, pharmacist and other health care professionals. In recent years, pharmacists in many countries have adopted a much more patient centred approach in pharmaceutical services they provide. This assures that both patient and economic aspects of drug therapy are appropriately considered in the interest of the patient. The principles of pharmaceutical care are embedded in the concept of good pharmacy practice (Hague, 1998).

In arriving at practice standards that could possibly be applied in Nigeria, this practice has adopted this survey approach as a framework using suggested standards that have been previously applied in arriving at practice standards elsewhere (Dessele and Rappaport, 1997). The need for pharmacists to agree on a standardized approach by which individual pharmacists will provide pharmaceutical care to patients cannot be over emphasized. There is no doubt that pharmaceutical care will fail if each pharmacy setting or individual pharmacist is allowed to define pharmaceutical care standards on their own (Welty, 1972).

This study had considered a good spread in the age, years of professional experience, qualification, practice area as well as gender in its conduct. Although a statistically significant ($p > 0.05$) gender balance was not achieved in the study sample, it is unlikely that the result obtained will change if it were to be achieved. Neither age, years of experience, qualification or practice area of pharmacists was found to have significantly affected their responses. This may be due to the nascent introduction of the term 'pharmaceutical care' in the practice of pharmacy in Nigeria.

It is difficult to recommend all the practice standards for initial application in Kaduna-Zaria metropolis even though 66.5% of respondents indicated feasibility and 76.8% indicated relevance of all the standards. The suggested practice standards 32 and 33 which had positive responses among 2 respondents, were 50-60% not judged feasible and relevant in a previous study. Extension of this finding to the present study would justify the exclusion of all practice standards with positive responses but below 60% from standards that can be recommended for use in Kaduna-Zaria metropolis. Studies by Dessele and Rappaport (1997) on the initial 52 suggested practice standards indicated that only 43 of the standards were rated positively for feasibility and 50 for relevance. The disparity between some of the standards being identified in this study with those previously in other studies is not unexpected as the concept and philosophy of Pharmaceutical Care is at its infancy in Nigeria. Nevertheless, the similarity of most of the positively rated standards in previous studies to the 45 standards being recommended in this study is remarkable and supports the reliability of the outcome of the present study.

Farris and Schopflocher (1999) have shown that pharmacists are generally positive about trying to provide pharmaceutical care but possess moderate to high intentions to apply the standards. Lack of workable strategies to adopt pharmaceutical care has been suggested as a possible reason for poor response on intention to apply the standards by many pharmacists. The low positive response of respondents to current application and intention to implement the standards (38.6% and 28.6% respectively) in this study is contrary to reports from the Netherlands where it was shown that the pharmacists engage in many pharmaceutical care activities including health promotion, disease prevention, patient counseling and communication with other healthcare professionals (Linstone and Turoff, 1975). The current low application and intention to apply the practice standards in hospitals and community pharmacies in Kaduna-Zaria metropolis is predictable. In this area as in most other parts of Nigeria, pharmacists still practice in environments where there is little or no space provided for patient counseling. Furthermore, pharmacists frequently demonstrate lack of assertiveness, confidence and show low self belief needed to effectively carry out their clinical roles in hospitals and community pharmacies. However, the provision of pharmaceutical care is not merely a function of individual decision making but is strongly impacted by the pharmacists' perceived control over their practice environments. These may account for the low positive response on current application and

intention to apply the pharmaceutical care standards. Other barriers militating against the concept and application of pharmaceutical care standards in this area include, high level of illiteracy among the populace, chaotic drug distribution, prevalence of fake and substandard drugs, poor enforcement of drug laws, poor communication between pharmacists and doctors, amongst others.

Finally, practice standards that can effectively be applied in improving pharmaceutical services in Kaduna-Zaria metropolis have been identified. The identified 45 standards are most likely to stimulate the widespread implementation of pharmaceutical care standards particularly in Northern Nigeria if seriously addressed. The use of the 52 suggested practice standards in this study might have introduced bias as suggested in previous reports (van Mill and Tromp, 1996). However, the fact that many pharmacists in Kaduna-Zaria metropolis are still not familiar with expected standards of practice of pharmaceutical care may have justified the use of the known suggested practice standards.

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