International Journal of Health Research, June 2011; 4(2): 91-97

Available at http://www.ijhr.org

Original Research Article

Open Access
Online Journal

Pharmaceutical Care Implementation: A Survey of Attitude, Perception and Practice of Pharmacists in Ogun State, South-Western Nigeria

Abstract

Purpose: To assess the attitude, perception and practice of pharmacists in Ogun State towards pharmaceutical care implementation.

Methods: Pre-tested and validated structured questionnaire was administered to selected 120 hospital and community pharmacists to determine their knowledge, attitude and practice of pharmaceutical care in their settings using open, closed and open-ended questions. The data collected were analysed using SPSS and presented using descriptive statistics.

Results: Of the 120 pharmacists, 105 completed and returned their questionnaire giving a response rate of 87.5%. Most of the respondents (92.2%) were aware of the pharmaceutical care concept but only 22.9% gave correct definition of the concept. Most respondents (97%) saw the need to incorporate pharmaceutical care concept into practice. In addition to willing to incorporate it, 94.2% equally wish to know more about pharmaceutical care concept. None of the respondents had implemented the concept fully but 67% monitor patients either through direct interview or through results of relevant tests. Some of the respondents (56%) had identified one form of error or the other in prescriptions, yet none of them document these errors and their respective interventions Topping the list of suggested ways of improving pharmaceutical care implementation were improved training at all levels, monitoring of therapy and enhanced relationships with other health professionals and patients.

Conclusion: The attitude of the pharmacists towards implementation of pharmaceutical care is good but the ability to implement it is weak. Concerted efforts among policy makers and other stakeholders to address the weaknesses will go a long way to improve the outcome of therapy for numerous patients who eagerly awaits full pharmaceutical care implementation.

Keywords: Attitude, Perception, Practice, Pharmaceutical Care.

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Introduction

In 1998, the International Pharmaceutical Federation (FIP) defined pharmaceutical care (PC) as "the responsible provision of pharmacotherapy for the purpose of achieving definite outcomes that improve or maintain a patient's quality of life; it is a collaborative process that aims at prevents or identifies and resolves medicinal product and health related problems; this is a continuous quality improvement process for the use of medicinal products" [1] This definition was a slight modification of that of Helpler and Strand (1990) which is the most widely used definition [2]. While PC is a patient centred, outcome oriented pharmacy practice with a goal to optimize the patient's health related quality of life, and achieve positive outcomes, within realistic economic expenditures [3], it is apparently still a theoretical statement in Nigeria [4] in many settings. In fact, earlier reports indicate that not much of the care appears to be known in the entire West African Sub Region [5]. Meanwhile it has become a dominant aspiration of pharmacy practice worldwide in the past decade [6]. In countries with full implementation of pharmaceutical care due to enabling environment such as the United State and Canada, great successes had been achieved. In one of such countries, Pauley et al, 1995 reported a reduction in emergency visits by asthmatic patients from 92 to 65 over six months period of study in a pharmacist coordinated asthmatic management [7].

A number of studies have been carried out on the knowledge, attitude and practice of pharmaceutical care in Nigeria. In 2003, Oparah and Eferakeya showed that the attitudes of Nigerian pharmacists towards PC are favourably high irrespective of the practice settings [8]. The attitude ratings varied with the levels of professional experience, and pharmacists having less experience showing more positive attitude. In 2002, some elements of PC activities such as medication history taking, blood pressure measurement among others were reported to have been practiced by some community pharmacists in Benin City [8]. Low satisfaction of patient with pharmaceutical services without PC has been reported as well [9]. Opara et al also reported improved outcome of PC intervention among hypertensive patients in a Nigerian community pharmacy where a significant difference between mean systolic blood pressure at baseline (187.67 ± 29.46 mmHg) and at the end of the study (137.22 ± 21.65 mmHg) was achieved [10]. Since these studies were carried out, the Pharmacists Council of Nigeria has organised training programmes on PC for pharmacists across the country through the Mandatory Continuing Education Programme but the influence of these trainings on current practice has not been reported. Assessing the perception of the pharmacists and their present level of involvement in patient care is therefore pertinent for probable and worthwhile interventions.

The objective of the study was therefore to assess the present knowledge, attitude, perception and practice of pharmacists in Ogun State towards PC implementation.

Methods

The study was carried out among pharmacists practicing in Ogun State, South-Western Nigeria in the year 2008. Ogun State is one of the 36 States in the Nigerian Federation and is located in the south western part of the country with a 2002 estimated population of 3,169,786 and a land mass of 16,762 sq km. The State has 20 Local Government Areas, three tertiary health institutions (Federal Medical Centre, Abeokuta, National Psychiatric Hospital, Aro, Abeokuta and State owned Olabisi Onabanjo University Teaching Hospital Sagamu), 25 secondary health care institutions and 394 primary health care centres [11,12]. There are pharmacy departments and pharmacists in all the secondary and the tertiary health care institutions. Although there are about 200 pharmacists in the state, only 129 of them renewed their registration with Pharmacists Council of Nigeria in 2009 [12]. Of this number, 60 work in the Ogun State University and the tertiary health institutions and 47 work in the Ministry of Health and Health Management Board which include the secondary health care institutions. Only 19 registered

pharmacists are working at primary health care centres at local government areas.

In this study, pharmacists (including interns) working in the Ogun State University, the three tertiary health institutions, systematically selected five secondary health care institutions, and randomly selected community pharmacies variously located in the state were included.

A questionnaire with closed and open-ended questions was developed, pre-tested, appropriately modified and administered to the participants. Information in the questionnaire included the socio-demographic data such as age, gender, year of professional experience and area of practice, as well as questions relating to knowledge and attitude of the pharmacists towards pharmaceutical care. Questions related to their knowledge included awareness of pharmaceutical care concept and level of training at which the respondents learnt about it, and the definition of the concept of PC. With respect to attitude, questions included incorporation of PC concept into practice or willingness to do so, subscription to relevant journals and interest in training for improved skills on the concept. Others were suggestions on perceived ways to improve the implementation of the concept of PC. The questionnaires were self-administered to 120 pharmacists.

Completed questionnaires were retrieved and the data collected entered into the computer. Statistical Package for Social Sciences (SPSS) was used to analyse the data. Results were presented in percentages. Proportional data were compared using chi square test. At 95% confidence interval, a 2-tailed p-value less than 0.05 was considered significant.

Results

Out of 120 questionnaires administered, 105 were completed and returned giving a response rate of 87.7%. Proportion of respondents that were working in the hospitals was 44.8% while 46.7% were practicing in community pharmacy setting. Academic pharmacists constituted 6.6% and 1.9% of respondents were from the State Ministry. Majority of the respondents had less than 10 years working experience (Table 1).

Table 1: Demographic Profile of Respondents (n=105)

Variables	No of Respondents	%
Gender:		
Male	62	59.0
Female	43	41.0
Age:		
21-30	18	17.1
31-40	46	43.8
41-50	22	21.1
>50	19	18.1
Years of Experience:		
<5	37	35.3
5-10	31	29.5
11-15	10	9.5
16-20	6	5.7
>20	21	20.0
Areas of Practice:		
Hospital	47	44.8
Community	49	46.7
Academia	7	6.6
Ministry	2	1.9

Ninety-six percent of the respondents were aware of PC concept but only 22.9% gave an acceptable definition of the concept. Only 28.6% of the respondents claimed to have subscribed to relevant journals on PC. Sixty-seven percent of them reported monitoring patients either through direct interview or through results of relevant tests (Table 2).

A high proportion (67%) of the respondents monitored their patients either through direct interview or results of relevant tests. Majority of the respondents have identified one form of error or the other in prescriptions, yet none of them document these errors and their respective interventions. The most commonly encountered drug related problems were drug interactions and over dosage (Table 4). Majority of the respondents reported the need to incorporate PC concept into practice while 94.2% wished to know more about the concept (Table 3). None of the respondents documented medication errors they observed and most of the hospital pharmacists among the respondents did not go on

ward rounds with other health care professionals (Table 5).

Table 2: Respondents' pharmaceutical care (PC) related knowledge

Variable	No (N=105)	%
Awareness about PC		
Yes	101	96.2
No response	3	2.9
Where respondent learnt about PC		
Pharmacy School	64	61.0
Journals	34	52.5
Post-Graduate level	48	45.7
Internet	22	21.0
Others	2	1.9
Definition of PC		
Correct definition[2]	24	22.9
Acceptable	55	52.5
Unacceptable	21	20.0
No response	5	4.8
Subscription to relevant journal to PC	30	28.6
Yes	11	10.4
No response		
Journal supply frequency (n=30)		
Monthly	8	26.6
Quarterly	12	40.6
Annually	10	33.3

Topping the list of suggested ways of improving pharmaceutical care is improved training at all levels. Emphasis on improved communication skills, monitoring of therapy, enhanced pharmacists' relationships with physicians and patients were stressed (Table 6).

Discussion

Most of the respondents fall within the group of less than 50 years with age range of 31 to 40 years being the majority. This is particularly important because they are the determinants of labour force to take charge of pharmaceutical care implementation. The older age group are usually predominantly for managerial responsibilities. The representation by the both sexes is equally remarkable due *to* gender implications on policy-related matters. Most of the respondents in all the areas of practice are well experienced having being in practice for more than 5 years.

Table 3: Attitude towards pharmaceutical care (PC) implantation and capacity building

Variable	No	%
Appreciating the need for incorporation of PC into practice		
Yes	102	97.1
No response	-	-
Willingness to incorporate PC into practice		
Yes	102	97.1
No response	1	0.9
Interest about incorporation of PC into practice		
Highly interested	80	76.2
Interested	21	20.0
Not interested	3	2.9
No response	1	0.9
Participation in Mandatory Continuing Professional Development (MCPD)		
Yes	70	66.7
No response	2	1.9
Discussion about PC at such MCPD (n=70)		
Yes	60	85.7
No response	2	2.9
Interest to know more about PC		
Yes	99	85.
No response	3	2.9

Almost all the respondents are aware of pharmaceutical care concept but only about one-fifth gave a correct definition with reference to that of Hepler and Strand (1990) [2]. This strongly indicates a knowledge deficit and need for improved mandatory continuing professional development (MCPD). Meanwhile reported attitude of pharmacists in Nigeria to MCPD is not satisfactory [13]. Teaching as well as learning and practice should also be evidence based.

The attitude of the respondents in this study is promising. This is of absolute importance for improved therapy outcomes and is similar to what has been reported. In 2003, Oparah and Eferakeya showed that the attitudes of Nigerian pharmacists towards pharmaceutical care are favourably high irrespective of the practice settings [8]. Interests shown in incorporation of

the concept need to be sustained for full and satisfactory implementation. The willingness to know more about the concept by more than 90% of respondents indicates a very favourable disposition towards achieving desired goal of PC: improving patient's health related quality of life.

Table 4: Practice and Implementation of pharmaceutical care

	No	%
Monitoring improvement in patient's response		
Yes	71	67.6
No response	20	19.1
Method used in patient monitoring		
Direct patient interview	46	43.8
Tests such as Blood Pressure	32	30.5
Reported tests done by patients	13	12.4
Not applicable	14	13.3
Identification of error in prescription		
Yes	59	56.2
No response	18	17.1
Type of identified error (n=59)		
Overdose	21	35
Under-dose	8	13.6
Drug interactions	23	39.2
Others	7	11.8
Forms of intervention applied to rectify identified errors		
Notify prescriber	55	52.4
Dispense correctly	11	10.5
Others	13	12.0

Table 5: Ward round and documentation by pharmacists (n=105)

Variable	No	%
Documentation of detected errors and interventions		
Yes	0	0.0
No	85	81.0
No response	11	10.5
Not applicable	9	8.5
Involvement in ward rounds with other health care team members		
Yes	2	1.9
No	49	46.7
No response	3	2.8
Not applicable	51	48.6

Table 6: Suggested ways to improve pharmaceutical care by pharmacists (n=105)

Variable	No	%
Improved Education		
Undergraduate	37	35.2
Post-Graduate	30	28.5
Self Development	24	22.8
Enhanced relationships with patients	68	64.8
Maintenance of privacy for consultation and patient counselling	51	48.6
Improved communication skills	55	52.4
Monitoring of drug therapy	65	62.0
Pharmacists Involvement in ward round	29	27.6
Documentation of activities	10	9.5
Establishment of drug information centres	15	14.3
Government backing	4	3.8
Improved relationships with other health care team members	6	5.6
Better re-numeration	9	8.6
Efficient drug supply system	7	6.7
Attitudinal change /enforcement during Internship	3	2.8

However, their willingness need to be back up by adequate and timely participation in various training programmes coupled with improved attitudes to continuing professional development.

The involvement of respondents in patient monitoring is also significant as previous report has indicated that most patients expected the hospital pharmacist to ask them how their medication is working, discuss their health with them and communicate with physicians on their behalf [14].

Documentation is an important element of pharmaceutical care which is needed for continuity of care, research, re-imbursement, evidence of action taken among others. In this study, most of the respondents reported to have identified drug related problems but neither the errors nor their interventions were documented. This finding corroborates previous reports which also indicated lack of documentation among pharmacists in Benin City [15]. Efforts made by

pharmacists to improve the care given through appropriate documentation could be of national importance in policy on cost effective PC as the available market for drug therapy is enormous and worth investing more time. For instance the annual national direct cost implications of hypertension alone has been estimated to be in excess of ₦450 billion (US$3 billion) in Nigeria [16]. There could be direct benefit to the pharmacists; for example, Rupp et al noted that roughly 2% of prescriptions examined had one or more prescribing errors, and through pharmacist interventions a value of $2.23 was added to each prescription filled [17].

The non-involvement of majority of respondents, especially the hospital pharmacists, in ward rounds recorded in this study is a major weakness in pharmaceutical services in the study area. Lack of enabling environment, knowledge deficit, inadequate pharmacy personnel, and excess work load among others could be responsible and need to urgently be addressed. Shyness by a number of pharmacists is well known even without much obstacle which calls for improved integration during training at various levels.

Our respondents' perspective on ways of improving PC implementation varied and is also an attestation of their readiness to implement it. Topping the list was improved skill acquisition through training. As far back as 1997, the World Health Organization (WHO) had encouraged special attention to be placed on knowledge, skills, attitudes and behaviours which support pharmaceutical care model right from undergraduate training [18]. Other suggestions were improved relationships with other health care professionals and patients, involvement in ward rounds, political backing, adequate facility provision, better re-numeration and privacy for counselling. Most of these suggestions are commendable and in consonant with WHO and FIP documents on PC related matters [19]. For enhanced relationships with patients, competence, empathy, privacy and good communication skill are paramount. These are the bedrocks in building enduring therapeutic relationships. For the built relationships to be maintained, regular monitoring and in-process evaluation of the therapy, its production mechanisms and responsible follow-up as well as documentation are mandatory. To achieve and sustain all these meaningfully, continuous quality improvement in capacity building is of absolute necessity. Quality care by nature is collaborative, hence adequate involvement of other health care professionals are paramount particularly the physicians. Practice standards need to be developed [4] as well as research to assess it in the country, taken each local peculiarity into consideration before satisfactory implementation can be achieved.

Conclusion

Attitude of the pharmacists in the state towards pharmaceutical care implementation is good. However, the technical know how to implement the concept is weak. Interest in professional self-development and improved capacity building is important. Concerted efforts among policy makers, trainers and practitioners will go a long way in addressing some of the challenges presently impeding pharmaceutical care implementation.

Conflict of Interest

No conflict of interest associated with this work.

Contribution of authors

The authors declare that this work was done by the author(s) named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors. Both authors designed the study but IAS analysed the data and prepared and edited the manuscript while OO conducted a literature search and collected the data.

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