ORIGINAL PAPER

Community Pharmacists' Awareness and Level of Participation in Primary Health Care in Sokoto Metropolis

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A – research concept and design; B – collection and/or assembly of data; C – data analysis and interpretation; D – writing the article; E – critical revision of the article; F – final approval of article.

Abstract

Background: Community pharmacy plays a role in primary health care (PHC) due to its proximity to and being accessible by the communities, making it a gateway to the health care system. However, the public under-utilize this facility leading to over-crowding of secondary and tertiary health care facilities.

Objective: This study was conducted to assess the community pharmacists' awareness and level of participation in promotive, preventive and curative primary health care services in Sokoto metropolis, Sokoto state, Nigeria.

Materials and Methods: It was a cross-sectional survey of all the registered community pharmacies within Sokoto metropolis; Data was collected through the use of a self-administered questionnaire distributed to the community pharmacists in their premises. The data was analyzed using SPSS version 21.0.

Results: Forty (40) registered community pharmacies were surveyed and percentage response was 90%. Majority of the community pharmacists (85.2%) are aware of PHC services. The level of community pharmacists' participation in health promotion (75.9%), disease prevention (64.8%), and curative (80.6%) health services were found to be high in Sokoto metropolis. Thirty-five 35(97.2%) of the respondents agreed that ensuring access to patient diagnosis and laboratory data could further improve their level of participation in PHC.

Conclusion: Majority of the community pharmacists in Sokoto metropolis are (85.2%) are aware of PHC. There was high level of participation of community pharmacists in primary health care services in Sokoto metropolis. However, more awareness of this participation needs to be created in the communities for maximum utilization of community pharmacies.

Key words: primary health care, community pharmacy, community pharmacists

INTRODUCTION

As defined in the Alma-Ata declaration of 1978, primary health care (PHC) is the "essential care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation, and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (WHO, 2012). Quality health is a fundamental right of all Nigerian citizens. The goal of PHC was to provide accessible health for all by the year 2000 and beyond.

Unfortunately, this is yet to be achieved in Nigeria and seems to be unrealistic in the next decade (Abdulraheem, et al., 2012). In this health care program, a set of universally accessible first-level services that encompasses primary care, disease prevention, health promotion, diagnostic, curative, rehabilitative, supportive and palliative services, population health, and community development within a holistic framework, are provided with the aim of providing essential community-focused health care (Lamarche, *et al..*, 2003; Muldoon, *et al..*, 2006; Alenoghena, *et al..*, 2014). Implementation of PHC services at the centers, vary based on the type of PHC facility in Nigeria (Alenoghena, et al., 2014).

In this health care field, community pharmacy plays a role as a PHC, due to its proximity to and accessible by the communities, making it on many occasions the gateway to the healthcare system, offering professional pharmaceutical services that are patient-centered, on an ongoing basis. In addition to the dispensing of medicines, community pharmacy is a recognized provider of services for the promotion of health and disease prevention, all aspects referred to in various definitions of PHC, which identifies community pharmacy and the pharmacists as essential components of the PHC team.

Pharmacists in community pharmacy practice are usually the first port of call for patients' complaints on health matters. Thus, providing opportunity for pharmacists to make appropriate recommendations, including referral to hospitals. More often than not, the pharmacist does recommend medications, except when he believes there is a need for the patient to see a physician (Fakeye, et al., 2012). The knowledge base of the pharmacists in providing appropriate advice to patients on prescribed medications, and possibly making rational drug recommendations has been shown to influence the level of confidence expressed by the patient in the pharmacist (Fakeye, et al., 2012). Evidently, pharmacists and the population at large would welcome greater involvement of community pharmacists in health-promotion and preventive services (Hudmon, et al., 2003).

Despite the role of community pharmacies and the pharmacists as essential components of the PHC team, there is under-utilization of these PHC centers. This results in overcrowding of the secondary and tertiary centres with disease conditions that can otherwise be managed in these facilities. Many people now-a-days would prefer to queue up in a teaching hospital for treatment of common ailment (such as uncomplicated malaria, common cold and catarrh, sore throat and acute diarrhoea) wasting resources and time instead of visiting a PHC facility such as community pharmacy closer to them, where they can get some level of care (Alenoghena, et al., 2014). Some studies have attributed the under-utilization of PHC facilities to poor perception of PHC by the community (Egbewale & Odu, 2013; Abdulraheem, *et al.*., 2012), and quality of services provided by PHC workers (Alenoghena, et al., 2014). For the above-mentioned reasons, this study was carried out to access the knowledge and level of participation of community pharmacists in PHC to find out whether they contribute to the poor perception of the community on community pharmacies as PHC centres and to determine the ways by which the level of participation of community pharmacists in PHC program can be improved.

METHODOLOGY

Study design
This is a cross-sectional observational study to assess the knowledge and level of participation of community pharmacists in primary health care in Sokoto metropolis. The research was carried out for a period of five months (May to October 2017).

Study area
The study was conducted in Sokoto metropolis, Sokoto state, North Western Nigeria. The metropolis comprises of Sokoto North and South Local Government Areas and also some parts of Kware LGA from the North, Dange Shuni LGA from South and Wamakko LGA to the West. The state comprises mostly Hausa/Fulani and other groups such as Gobirawa, Zabarmawa, Kabawa, Adarawa, Arawa, Nupes, Yorubas, Igbos and others.

Study setting
The study was conducted in community pharmacy premises within the Sokoto metropolis. There were about 40 registered community pharmacy premises in the metropolis as at the time of the study (May to October 2017), as provided by the Association of Community Pharmacists of Nigeria (ACPN), Sokoto state chapter, each with a community pharmacist as either the owner or as the superintendent pharmacist.

Study population
Community pharmacists practicing within Sokoto metropolis made the population of this study.

Data collection instrument
A questionnaire used for similar study in Lagos state, obtained with permission to use from Olumide I. Soyemi, from the Department of Pharmacy, National Orthopaedic Hospital, Igbobi, Yaba, Lagos state was adopted for this study (Olumide & Oladipo, 2014). It was a self-administered questionnaire consisting a total of 31 questions in four (4) sections; section A is the demographic data, section B is knowledge about primary health care, section C is the community pharmacists' participation in primary health care activities and section D is ways to improve community pharmacists' participation in primary health care activities.

The responses to participation in primary health care services of the respondents were coded and scored as; No/Not sure = 0(poor), Rarely =1(fair), Sometimes =

2(moderate) and Frequently =3(high). The maximum a participant can score in health promotion and curative health services is 21 point each. The mean scores were categorised and graded as; 0.0-0.4 (poor), 0.5-7.4(fair), 7.5-14.4 (moderate) then 14.5-21.0 (high). While the maximum a participant can score in preventive health services is 12. The mean scores were also categorised and graded as 0.0-0.4 (poor), 0.5-4.4 (fair), 4.5-8.4 (moderate) and 8.5-12.0 (high).

Method of data collection
The printed questionnaires were administered by direct handling to the community pharmacists in their premises and the completed questionnaire copies were retrieved on same day or some days later.

Data analysis

The retrieved copies of the completed questionnaires were sorted, coded and entered into a statistical package for social sciences (SPSS) software version 21.0 for analysis. Descriptive statistics including frequency and percentage as well as mean and standard deviations; correlation and chi-square were used to analyse the data. The responses of the respondents to knowledge questions were coded as; No/Not sure = 0, yes = 1. The awareness data was analyzed using frequencies and percentages of the correctness of the responses indicating knowledge of primary health care. The level of participation was analyzed using frequencies and percentages of individual response as well as mean ± SD, minimum and maximum participation scores of the promotive, preventive and curative health services as well as the mean total participation score for all the three services.

RESULTS AND DISCUSSION

A total of 40 questionnaires were distributed to the pharmacy premises, out of which 36 were responded and retrieved giving a percentage response of 90%. One of the pharmacists did not agree to participate while the remaining 3 pharmacists were not around after several visits up to the point of data analysis.

A total of 32(88.9%) of the respondents were males, this shows that male pharmacists are more in the community practice as compared to females in Sokoto state. This finding is supported by a similar study by Fakeye *et al.*. that there are more males than females in the community practice (Fakeye, et al., 2012). The majority of the respondents (69.4%) have B. Pharm qualification, followed by M. Pharm (25%) while PharmD and PhD were the least with 2.8% each. One to five (1-5) years of practice experience were the highest response (44.4%) and 21 years and above being the least with only 2.8% as seen in Table 1 below. This may be as a result of the fact that; many
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community pharmacy premises are not owned by pharmacists. They therefore, by Pharmacists' Council of Nigeria (PCN) law have to employ superintendent pharmacists to look after the professional services. Most of these superintendent pharmacists are younger pharmacists with B. Pharm qualification and 1-5years of pharmacy practice experience. Over time, these pharmacists may get opportunity in other areas of pharmacy practice such as hospital, academics, etc. thereby leaving the community practice. This finding was also supported by Fakeye's study, indicating that most of the Pharmacists in the community practice are those with B. Pharm qualification. This shows that most of the community pharmacists in Sokoto state have less years of community practice experience, and this is also in line with the finding that younger Pharmacists appear more with current trends in the practice of pharmacy such as professional activities related to the delivery of pharmaceutical care by the pharmacist (Cordina, et al., 2008).

Table 1: Demographic data of the respondents

Variable	n (%)
Male	32(88.9)
Female	4(11.1)
Total	36(100)
B. Pharm	25(69.4)
Pharm D	1(2.8)
M. Pharm	9(25.0)
PhD	1(2.8)
Total	36(100.0)
1-5yrs	16(44.4)
6-10yrs	13(36.1)
11-15yrs	3(8.3)
16-20yrs	3(8.3)
20yrs and above	1(2.8)
Total	36(100.0)
1-5yrs	28(77.8)
6-10yrs	4(11.1)
11-15yrs	1(2.8)
16-20yrs	2(5.6)
20yrs and Above	1(2.8)
Total	36(100.0)

The responses provided by the respondents on their awareness about PHC are shown in Table 2 below. Out of the 36 respondents in the study, 29(80.6%) responded to providing primary health care services. Other responses were Self-care (5.6%), secondary health care (5.6%), and tertiary health care (8.3%).

A total of 35(97.2%) of the respondents responded that they have ever heard about PHC. The responses of the respondents about the history of Primary Health Care; that the PHC became prominent with the Alma-Ata declaration of 1978; 18(50%) of the respondents knew about the history of PHC. While 33(91.7%) of the respondents responded that PHC is the first contact health care a patient receives whereas 3(8.3%) responded with No/Not sure. 33(91.7%) of the respondents believed that PHC services can either be Curative, promotive or preventive in nature, while 3(8.3%) of them responded with No/Not sure. 36(100%) of the respondents believed that a pharmacist can provide PHC services. There was a total of 155 positive (Yes) responses on awareness questions about primary health care and 25 negative responses giving a total of 180 responses, out of which the respondents scored 86.1% on awareness questions. This showed that majority of the respondents have knowledge of the level of services (Primary health care) they provide in their pharmacies and demonstrated good or sound knowledge of PHC.

Table 2: The respondents' awareness of primary health care

Question	Response n (%)
What level of healthcare services do you provide in your pharmacy?	
Self-care	2(5.6)
Primary Health Care	29(80.6)
Secondary Health Care	2(5.6)
Tertiary Health Care	3(8.3)
Total	36(100.0)
Have you ever heard of Primary Health Care?	
No	1(2.8)
Yes	35(97.2)
Total	36(100.0)
Primary Health Care became prominent with the Alma-Ata declaration of 1978?	
No	18(50.0)
Yes	18(50.0)
Total	36(100.0)
Primary Health Care is the first contact Health Care a patient receives?	
No	3(8.3)
Yes	33(91.7)
Total	36100.0)
Primary Health Care Services could either be promotive, preventive or curative in nature?	
No	3(8.3)
Yes	33(91.7)
Total	36(100.0)
The Pharmacist can provide Primary Health Care Services?	
No	0(0.0)
Yes	36(100.0)
Total	36(100.0)

The Primary Health Care services were basically divided into Health Promotion, Preventive Health and Curative Health Services. The respondents were assessed about their participation in these activities, and to what level do they carry out these activities in their pharmacy premises.

The maximum scores for health promotion, preventive health and curative health services are 21, 12 and 21 respectively. The respondents had a mean score of 15.94 ± 3.135, 7.78 ± 2.153 and 16.92 ± 2.980 in health promotion, preventive health services and curative health services accounting for 75.9%, 64.8% and 80.6% respectively. The total maximum a respondent can score for the three services was 53, out of which the respondents scored an overall mean of 40.64 ± 6.578 accounting for 76.7% as can be seen in Table 3 below.

The result showed that the respondents have high level of participation in health promotion and curative health services compared to their level of participation in preventive health services. This agrees with a survey that showed 90% of community pharmacists participate in health promotion activities within two cities in Nigeria. (Brian & Henry 2017). This may probably be due to the fact that health promotion and curative health services have to do with the sales of commodities that lead to monetary return, while preventive health services do not, and this can also be supported by a research by (Igwilo & Aderemi-Williams, 2008) that revealed the unwillingness of parents/care givers to use the community pharmacies for preventive health services like routine immunization of their wards. In general, the respondents showed high level of participation in primary health care services in Sokoto metropolis. This is supported by Olumide's finding in Lagos state (Olumide & Oladipo, 2014), but slightly differ from another similar study conducted in Benin City that reported community pharmacists are marginally involved in the primary health care programmes in Benin City (Azuka & Evbade, 2002). However, more awareness maybe needed as many people in the communities tend to over burden the secondary and tertiary health care centres, many with conditions that can be handled in PHC centres such as community Pharmacies.

Table 3: Mean services provision scores of the respondents

Service provision score	Minimum score	Maximum score	Mean score ±SD
Health promotion score	6	21	15.94 ±3.135
Preventive health service score	3	12	7.78 ±2.153
Curative health services score	9	21	16.92 ±2.980
Total involvement score	**23**	**53**	40.64 ±6.578

The respondents' responses to health promotive, preventive and curative health services are shown in Table 4-6 below.

Table 4: Respondents' response to health promotive services

Items	Response n (%)
Health education and provision of leaflets for drug information	
Never	2(5.6)
Rarely	3(8.3)
Sometimes	14(38.9)
Frequently	17(47.2)
Total	36(100.0)
Provision of tobacco cessation advice to patients	
Never	4(11.1)
Rarely	5(13.9)
Sometimes	18(50.0)
Frequently	9(25.0)
Total	36(100.0)
Provision of alcohol cessation advice to patients	
Never	5(13.9)
Rarely	2(5.6)
Sometimes	18(50.0)
Frequently	11(30.6)
Total	36(100.0)
Promotion of health lifestyle on an individual or community basis	
Sometimes	11(30.6)
Frequently	25(69.4)
Total	36(100.0)
Provision of emergency contraception to mothers within 72hrs of unprotected sexual intercourse	
Never	7(19.4)
Rarely	1(2.8)
Sometimes	12(33.3)
Frequently	16(44.4)
Total	36(100.0)
Regular patient advice on diet, nutrition as well as the body mass index(BMI)	
Never	2(5.6)
Sometimes	11(30.6)
Frequently	23(63.9)
Total	36(100.0)
Detection of adverse drug reactions	
Rarely	4(11.1)
Sometimes	15(41.7)
Frequently	17(47.2)
Total	36(100.0)

Table 5: Respondents' response to preventive health services

Items	Response n (%)
Provision of routine immunization services	
Never	8(22.2)
Rarely	7(19.4)
Sometimes	16(44.4)
Frequently	5(13.9)
Total	36(100.0)
Screening of at risk patients for diseases e.g. diabetes, hypertension, coronary heart diseases	
Never	5(13.9)
Rarely	6(16.7)
Sometimes	15(41.7)
Frequently	10(27.8)
Total	36(100.0)
Screening of medication for possible drug interactions	
Never	1(2.8)
Sometimes	14(38.9)
Frequently	21(58.3)
Total	36(100.0)
Ordering of routine laboratory tests	
Never	5(13.9)
Rarely	4(11.1)
Sometimes	19(52.8)
Frequently	8(22.2)
Total	36(100.0)

Table 6: Respondents' response to curative health services

Items	Response n (%)
Diarrhea management in children with Oral Rehydration Salts	
Never	0(0.0)
Rarely	1(2.8)
Sometimes	6(16.7)
Frequently	29(80.6)
Total	36(100.0)
Supply of essential drugs and dressings	
Never	2(5.6)
Rarely	1(2.8)
Sometimes	11(30.6)
Frequently	22(61.1)
Total	36(100.0)
Assessment and treatment of common diseases e.g. malaria, cold and catarrh, sore throat, diarrhea	
Never	0(0.0)
Rarely	1(2.8)
Sometimes	2(5.6)
Frequently	33(91.7)
Total	36(100.0)
Referral of patients to appropriate health care provider after the provision of First-Aid-Services	
Never	0(0.0)
Rarely	1(2.8)
Sometimes	14(38.9)
Frequently	21(58.3)
Total	36(100.0)
Patient monitoring for detection of possible adverse drug reaction	
Never	4(11.1)
Rarely	3(8.3)
Sometimes	11(30.6)

Frequently	18(50.0)
Total	36(100.0)
Syndromic management of STDs	
Never	7(19.4)
Rarely	5(13.9)
Sometimes	15(41.7)
Frequently	9(25.0)
Total	36(100.0)
Assessment and treatment of minor soft tissue injuries	
Never	2(5.6)
Rarely	3(8.3)
Sometimes	13(36.1)
Frequently	18(50.0)
Total	36(100.0)

There was a weak negative association between the qualification of the respondents and their overall participation in PHC services which was statistically not significant. There was also a weak positive association between the respondents' years of community practice with their overall participation in PHC services which was also statistically not significant as shown in Table 7.

This showed that as the qualification of the respondent's increases (from B. Pharm to PhD), their level of participation in PHC services decreases. This may probably be due to the fact that as their level of education increases, they tend to leave the area of community for other opportunities; to academics, hospital etc. which is likely because the majority of the respondents have B. Pharm that were employed by most the owners of the premises that were not pharmacists from the start. Also, a weak positive association between their years of community pharmacy practice and their participation in PHC services indicates that as years of community practice increases, their participation also increases though statistically not significant. This is expected due to the fact that, the more they practice the more they have acquired more experience from the patients and through seminars, mandatory continuing development programmes as well as conferences.

There was significant positive association between the respondents' participation in health promotion services and their participation in preventive health services. Lastly, there exist a strong positive association between the respondents' participation in health promotion and curative health services that is statistically significant as shown in Table 7 below.

This shows that as participation in health promotion increases, participation in preventive and curative health services increases and vice versa. In essence, preventive and curative health services promote health.

Table 7: Correlations showing associations between qualification, year of pharmacy practice and overall participation

Associated variables	Corr. coef.	*P-value*
Qualification and Overall participation in PHC	-0.149	0.386
Year of Comm Pharm Prac and Overall participation in PHC	0.143	0.407
Health Promotion and Preventive Health Service	0.464	0.004[*]
Health Promotion and Curative Health Service	0.568	0.000[*]

*Correlation significant at ≤ 0.05

The suggested ways to improve the level of participation of community pharmacists in primary health care include: Further education and training on PHC, Legislative changes with the roles of the pharmacists in PHC clearly defined and lastly,

Ensuring pharmacists access to patient diagnosis and laboratory data. Table 8 shows the responses to ways that can improve the community pharmacists' participation in PHC services.

A large number (91.7%) of the respondents believe that further education and training on PHC will make the Pharmacists more relevant in PHC while the remaining (8.3%) either disagree or could not decide. 30 of the respondents (83.3%) believe that legislative changes with the roles of the pharmacists in PHC clearly defined will improve the level of participation in PHC while 6(16.7%) disagree or couldn't decide. Majority of the respondents (94.4%) suggested that ensuring pharmacists access to patient diagnosis and laboratory data will make the Pharmacists more relevant in PHC, only a few (5.6%) disagree or couldn't decide.

This is in contrast to a finding in Lagos state, that showed majority of the respondents suggested further education and training on PHC would make Pharmacists more relevant in PHC (Olumide & Oladipo, 2014). Others suggested that legislative changes with the roles of the pharmacists in PHC clearly defined could also improve their level of participation in PHC.

Table 8: Suggested ways to improve the level of participation of community pharmacists in primary health care

Items	Response n (%)
Further education and training on Primary Health Care	
Undecided	1(2.8)
Disagree	2(5.6)
Agree	3(8.3)
Strongly agree	30(83.3)
Total	36(100.0)
Legislative changes with the roles of the Pharmacists in Primary Health Care clearly defined	
Undecided	2(5.6)
Disagree	4(11.1)
Agree	5(13.9)
Strongly agree	25(69.4)
Total	36(100.0)
Ensuring Pharmacists access to patient diagnosis and lab data	
Undecided	1(2.8)
Strongly disagree	1(2.8)
Agree	7(19.4)
Strongly agree	27(75.0)
Total	36(100.0)

CONCLUSION

Majority of the community pharmacists were aware of the level of services they provide in their premises (primary health care services). There was high level of participation of community pharmacists in primary health care services in Sokoto metropolis. Ensuring pharmacists access to patient diagnosis, further education and training on primary health care and legislative changes with roles of the pharmacists in primary health care clearly defined were found to be the ways to improve the pharmacists' participation in primary health care. However, more awareness of the participation of community pharmacists in PHC need to be created in the communities for maximum utilization of community pharmacies.

COMPETING INTEREST

There is no conflict of interest associated with this study.

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