

Research Article

Community Pharmacy in Warri, Nigeria – A Survey of Practice Details

Adje, D. U.,¹ Oli, A N.²¹Department of Clinical Pharmacy and Pharmacy Administration, Faculty of Pharmacy, Delta State University, Abraka, Nigeria²Department of Pharm .Micro And Biotechnology, Faculty of Pharmacy ,Nnamdi Azikiwe University, Agulu, Anambra State, Nigeria

*Corresponding author

David U Adje

Email: a_udare77@yahoo.com

Abstract: Activities of community pharmacists could have a profound impact on the health of the public. Knowledge of routine daily activities of community pharmacists could be harnessed to ensure optimum and safer service delivery. The objectives of the present work is to identify activities that community pharmacists actually perform; to explore variables that influence the pattern and peculiarities of community pharmacy practice in the Nigerian setting. The methods involved A survey of all pharmacies in the study area was done using a pre- tested self reporting questionnaire. It was observed that of the 57 community pharmacies that met the inclusion criteria, the open drug markets were a major source of drug stock for 25 (43.86%). 42% of pharmacies received prescriptions from nearby government hospitals only “ Occasionally”. 19% had never received a prescription from any private hospital .Only 14% admitted that they administer injections quite often in their practice. 98.2 % of pharmacists admitted making prescription drugs recommendations to their clients. It can be concluded that community pharmacists are involved in a broad range of health promotion activities. Injection administration and recommendation of prescription drugs are activities that could impact negatively on public health. Lack of prescriptions from hospitals and clinics, low aggregate turnover and a chaotic drug distribution channel are factors contributing to such practices.

Keywords: community pharmacy, open drug markets, unethical practice

INTRODUCTION

Pharmacy is one of the oldest professions with a history dating back to 2700BC. Pharmacy practice was initially combined with medicine but it was not until 1200AD that pharmacy became legally separated from medicine.[1-2]. Since then pharmacy has come a long way. Pharmacy has moved from the drugstore to the ward, from dispensing to pharmaceutical care, from a generalist discipline to specialization in areas such as oncology, pediatrics, terminal care and nuclear pharmacy [3].

Despite these giant leaps, practice located in the community is still a very important aspect of pharmacy. For many persons the first encounter with the profession is at the community pharmacy level [4]. As a primary care provider, the community pharmacist serves as an informed helpful link between patients and the physician. He is the most accessible of all health professionals and enjoys the trust of a large number of people who visit pharmacies daily to obtain medicines, fill prescriptions and get information about health related matters [5-6]

Community pharmacy practice therefore has a major impact on the public perception of the pharmacy profession. In the United States of America, Britain,

and some European countries , standards of practice are well defined and details of community pharmacy practice are highly predictable[4]. This cannot be said of a developing country like Nigeria where aberrations abound in the drug distribution channel and all kinds of persons sell and dispense ethical drugs and scheduled poisons [7]. Details of practice may be highly unpredictable and it is very doubtful whether practice is structured and follows prescribed standards. It is therefore very important to find out what pharmacists really do in the normal course of daily practice with a view to developing appropriate interventions that would help improve the quality of pharmaceutical services in community pharmacies.

OBJECTIVES

The objectives of this study were to identify routine activities performed by community pharmacists, identify activities that could impact negatively on public health, explore variables that influence the pattern of practice in the study area , and to determine extent to which structure and resource limitations impact on the pattern of community pharmacy practice

DESIGN

A cross sectional survey of all community pharmacists in the study area.

METHODS

A self reporting pre tested questionnaire exploring various aspects of pharmacy practice was the main instrument of data collection. Section A dealt with demographic data. Section B examined structural details while section C explored practice details. The last section elicited response regarding possible solutions to identified problems. Only retail pharmacies with demonstrable evidence of presence of a registered pharmacist were included in the study. Pharmacy premises were excluded from the survey if the presence of a registered pharmacist could not be established.

RESULTS

There was urban predominance (80%) in the location of pharmacies surveyed. More registered pharmacies (84%) were pharmacist owned. 61% of pharmacists surveyed had no additional qualifications. The doctor of pharmacy degree was the most common among additional qualifications among community pharmacists. Details of the demographic characteristics of pharmacies and pharmacists surveyed are shown in tables 1 and 2.

Table 1: Demographic characteristics of pharmacies surveyed

Item	No. (%)
Facility	
Location	
Urban	46(80.7)
Sub Urban	10(17.5)
Rural	1(1.8)
Proximity to Govt. Hospital	
Very Near	6(10.5)
Near	11(19.3)
Far	40(70.2)
Proximity to Private Hospital	
Very Near	8(14.0)
Near	21(36.8)
Far	28(49.2)
Ownership	
Pharmacist Owned	48(84.2)
Non Pharmacist Owned	9(15.8)
Size	
Large	8(14)
Average	40(70.2)
Small	8(14)
Very Small	1(1.8)
Daily Sales(NAIRA)	
≤5000	8(14)
6 – 10000	2(3.5)
11 – 15000	17(29.8)
16 – 20000	2(3.5)
21 – 25000	7(12.3)
26 – 30000	2(3.5)
31 – 35000	2(3.5)
36 – 40000	3(5.5)
>40000	6(10.5)
Undisclosed	8(14)

Table 2: Demographic characteristics of community pharmacists

ITEM	No. %
Additional Qualification	
Pharm. D.	10(7.5)
M. Pharm	2(3.5)
FPC Pharm	3(5.3)
MBA	2(3.5)
MPH	3(5.3)
Pharm D/Fpc Pharm	1(1.8)
Pharm D, Fpc Pharm, MBA	1(1.8)
None	35(61)
Length of Practice (Years)	
1 – 5	10(17.5)
6 – 10	11(19.3)
11 – 15	11(19.3)
16 – 20	9(15.8)
21 – 30	10(17.5)
>30	8(10.61)
Computer Literacy	
Yes	44(77.2)
Computer Skills (scale 1-5, mid point 3)	
Microsoft Word	2.39 ± 1.36
Microsoft Excel	1.88 ± 1.4
Power Point	1.65 ± 1.4
Use of statistical packages	1.37 ± 1.3
Use of search engines	2.68 ± 1.1
Use of internet to solve therapeutic problems	2.53 ± 2.97
Use of internet for research	2.53 ± 1.3

42.1 % of pharmacists indicated that the open drug markets were a major source of their stock. 54% admitted that they obtained drugs from the open markets quite often. These drugs include thermo labile drugs for which the open markets were a primary source for nearly 30% of the pharmacies. 28.1% admitted that they are either not sure or not confident of the quality of vaccines they stock. In the event that the open markets are scrapped, 35% of pharmacists surveyed indicated that they would have difficulty in stocking the desired range of drugs while 43.9% said they would have difficulty in obtaining drugs at competitive prices. Apart from unavailability of tablet splitting devices and cholesterol meter resource availability profile for pharmacies surveyed was average as shown in table 3.

The rate of incoming prescriptions to pharmacies was generally very low with 42% and 35 % of pharmacy premises claiming that they only received prescriptions occasionally from government and private hospitals respectively. 19% of pharmacy premises claimed that

they had never ever received any prescriptions from private hospitals.

About 14% of pharmacists admitted administering injections frequently while 26.4% and 63.2% said they never administer injections by intramuscular and intravenous routes respectively. 64.9% of those who administer injections admitted that they would administer injections without a prescription. Only 8 % indicated they would administer injections by iv route if the patient presented with a doctors prescription. The most commonly administered injectable drugs were analgesics (31,57%) ,followed by anti malarial (29.9%) and injectable contraceptives(11%) while the least common were penicillins (7%) and narcotic analgesics(1.8%). Of those who administer injections, almost 24% admitted to having experienced some form of adverse drug reactions in patients resulting from administering injections , the most common being Abscess(19.3%) , followed by anaphylactic reactions (3.5%) and cutaneous reactions(1.8%). Only a few 17.6% believed that their income would be drastically reduced if they were to stop administering injections.

98.26 % of pharmacists surveyed admitted making drug recommendations to patients irrespective of the nature of the drug.. 60.2% specifically admitted

recommending ethical products including antibiotics to their patients. Further details of practice are shown in Tables 4 and 5

Table 3: Resource availability of pharmacies surveyed

Item	Number of Positive Answers (%) n=57
Functioning Air Conditioner	15 (26.3)
Refrigerator	37 (64.9)
Computer	41 (71.9)
Weighing Scale	48 (84.2)
Meter Rule	19 (33.4)
Sphigmomanometer	54 (94.8)
Glucose meter	12 (21.1)
Cholesterol meter	2 (3.5)
Thermometer	
Digital	38 (68.4)
Mercury	24 (42.1)
Tablet Splitter	6 (10.5)
Tablet Crusher	2 (3.5)
Pregnancy Test Strips	51 (89.5)
Weight/Height Chart	13 (22.1)
Malaria Parasite Test Kits	14 (24.6)
Patient Education Leaflets	33 (57.9)
Number of Reference Books	
1	1 (1.8)
2	6 (10.5)
3	13 (22.8)
4	23 (40.4)
5	8 (14)
6	2 (3.5)
Number of Support Staff	
0	3 (5.3)
1-2	28 (48.1)
3-4	20 (35.1)
5-6	5 (8.8)
7-8	1 (1.8)
Availability of Pharmacist	
All the time	6 (10.5)
Most of the day	36 (63.2)
Mornings only	5 (8.8)
Evenings only	9 (15.8)
Reasons for Absence of Pharmacist	
Rest	12 (21.1)
Travel	7 (12.3)
Purchase drugs /other business	14 (24.6)
Power failure	6 (10.5)
Church activities	4 (7)
Academic pursuit	2 (3.9)

Table 4: Practice Details of Pharmacists

Item	Government Hospital	Private Clinic
	No. %	No. %
Prescription per day		
1-10	12 (21.1)	7 (12.2)
11-20	9 (15.8)	4 (7)
More than 20	4 (7)	5 (8.8)
Few prescriptions per month	5 (8.8)	5 (8.8)
Occasionally	24 (42.1)	20 (35.1)
Never received a prescription	1 (18)	11 (19.3)

Table 5 Administration of Injections by pharmacists

Route	Frequency				
	Very often No. (%)	Often No. (%)	Sometimes No. (%)	Rarely No. (%)	Never No. (%)
Intramuscular	4 (7)	4 (7)	16 (28.1)	18 (31.6)	15 (26.4)
IV	0 (0)	4 (7)	3 (5.3)	14 (24.6)	37 (63.2)

DISCUSSION

The demographic profile of pharmacies surveyed is consistent with the average profile in other developing countries. For instance, in Saudi Arabia nearly ninety percent of community pharmacists possess only the basic pharmacy qualification and in Ghana urban predominance is a notable feature of community pharmacy practice[8-9]. In this study, nearly three quarters of the pharmacists had no additional qualification. This might be an indication of a need for community pharmacists to go beyond focusing on the business aspects of the practice to build capacity through acquiring additional training in order to continue to remain relevant to society.

Pharmacy is an information intensive discipline therefore community pharmacists require training in use of computer and information technology [10]. This also applies to our survey population. On a scale of 1-5, average scores were all below the midpoint of 3 in most areas of computer use relevant to pharmacy practice.

In most developed countries, compulsory presence of a pharmacist is the norm whenever the pharmacy is opened to the public [11-13]. The situation is however different in developing countries despite legislation to that effect. Empirical observation seems to support the claim that in many cases professional staff are not available in the pharmacy and dispensing functions are left to shop attendants and sales people, many of whom lack formal training in drug use[14-15]. In this study however, majority of the pharmacists claimed that they were available in their pharmacies most of the day. Only about one fifth admitted that they may be absent from the pharmacy for parts of the day. Going out to source for drugs as well as taking time out to rest were the most frequent reasons given by pharmacists for absence from their premises.

Daily sales turnover was generally low ranging between 5000 naira(35 U S dollars) to above 40000 naira(less than U S 300 dollars). Low daily sales could encourage sharp practices in a bid to survive the current harsh economic situation in many countries. However there is a possibility that respondents may have understated their daily sales volume. In fact about 14% of pharmacists surveyed refused to divulge information about their daily sales volume despite assurances of confidentiality. There is a need for professionals to imbibe the research culture and volunteer information freely.

Resource availability profile has serious implications on the pattern of practice Most pharmacists in the study had equipment to measure blood pressure, check body temperature, weigh patients, and provide some form of patient education. However many of them lacked necessary equipments required to measure body mass index, screen for diabetes, malaria and high cholesterol levels. Also tools that could facilitate more accurate dosing e.g. oral dispensing syringe, tablet cutter and tablet crusher were absent in most pharmacies.

Stocking of quality medications from approved and legitimate sources is one of the principal safeguards against fake and substandard drugs[16]. The fact that almost half of pharmacists admitted that the unregulated drug markets were a major source of medications that they stock and the belief that the drug markets play a vital role in their ability to source variety of drugs at competitive prices emphasizes the need for urgent action to be taken to define and sanitize the drug distribution channel so as to reduce to the barest minimum dependence of registered pharmacists on illegal unregulated sources for their drug supplies.

Inter-professional disputes arising from mutual suspicion are rife in many developing countries [17].

This study shows that pharmacists are indeed involved in some “unethical” practices consisting mainly of making prescription drug recommendations and administration of injections. However the practice of administering injections is not as widespread among pharmacists as suggested by anecdotal reports. In one study measuring the prevalence of injection induced sciatic nerve injury among children, more than half of such injuries were found to have been caused by injections given by “dispensing chemists” [18]. While “chemist” in this context could mean any one of the thousands of unregistered drug shops, it could also refer to registered pharmaceutical premises. Our study however shows that majority of community pharmacists do not administer injections routinely and nearly half do not administer injections at all. Only a minority believed that administering injections is indispensable to having a successful practice.

It is important to balance these findings about “unethical” practices with the finding that for majority of community pharmacists prescription only come in occasionally from government hospitals and even less frequently from private clinics in their vicinity. Even more disheartening is the fact that about one fifth of community pharmacists surveyed claimed that they had never ever received a prescription from a private hospital or clinic. These challenges must be urgently addressed in order to protect the health of the public and harness the promising potential of community pharmacists to deliver easily accessible public health services.

CONCLUSION/RECOMMENDATIONS

Apart dispensing medications, community pharmacists are involved in health promotion activities. Pharmacists are also involved in making prescription drug recommendations to patients and to a much lesser extent, administration of injections. Pharmacist’s involvement in activities beyond their scope of training could pose a threat to public health. Factors contributing to this situation should be urgently addressed so that the unique strengths of pharmacies could be more effectively deployed to improve health and well being and ensure public safety.

ETHICAL APPROVAL

This study was carried out among community pharmacists. To the best of our knowledge, a human research ethics committee for non hospital- based study does not exist in our environment. Therefore, institutional approval and written consent of participating pharmacists was obtained. We believe that this is sufficient for a questionnaire- based non-invasive survey that we carried out.

REFERENCES

1. Anderson S; Making Medicines-A brief history of pharmacy and pharmaceuticals. 1st

- edition, The Pharmaceutical Press, London, 2005.
2. Adenika FB; Pharmacy in Nigeria Panpharm Ltd., Lagos Nigeria, 1998.
3. Board of pharmacy specialties Current Specialties. Available from <http://www.info@bps.web.org>.
4. Department of Health; Pharmacy in England Building Strengths-Delivering the future. Available from <http://www.dh.gov.uk>
5. Knapp KK, Paavola FG, Maine LL, Sorofman E, Politzer RM; Availability of primary care provider and pharmacists in the united states. *J Am Pharm Assoc.*, 1999, 39: 127-135.
6. Boardman H, Lewis M, Trinder P, Rajaratnam G, Croft P; Use Of Community Pharmacies: a Population-based Survey. *Journal of Public Health*, 2005, 27(3): 254-262.
7. Agbaje J; Pharmacy Practice: Monitoring and Control. *Nig J of Pharmacy*, 1998; 29(1): 25-29.
8. Al Hassan M I; A look at community pharmacy practice in Saudi Arabia. *Research Journal of Medical Sciences*, 2009; 3 (3): 111-114.
9. Smith F; Community pharmacy in Ghana: Enhancing the contribution to Primary Health Care. *Health Policy and Planning*, 2004; 19 (4): 234-241.
10. Balen RM and Jewesson PJ; Pharmacists Computer skills and Needs Assessment Survey *J Med Internet Res* 2004; 6(1) : e11
11. Parmar S; Community pharmacy practice in the United States and Kenya- Comparison. *Diabetes in Control* 2008, Issue 406, Available from <http://www.diabetesincontrol.com>.
12. Iguchi S, Ohnishi M, Nishiyama T, Hosonack, Umezawa C; Community Pharmacy Practice in Japan - Results of a Survey. *J of Clin Pharm. Ther.*, 1998; (3) 233-237.
13. Foppe van mil JW, Martin Schulz; A review of pharmaceutical care in community pharmacy in Europe. *Harvard Health Policy Review*. 2006; 7(1):155-161.
14. Toklu HZ, Akici A, Oktay S, Cali S, Sezen SF, Keyer-Uysal M; The practice of community pharmacists in Turkey. *Marmura Pharm J.*, 2010; 14: 53-60.
15. Basak SC, Sathyanarayana D; Community Pharmacy practice in India-Past, Present and Future *Southern Med Review*, 2009; 2 (1):11-14
16. Pecoul B, Chirac P, Trouiller P, Pinel J; Access to essential drugs in poor countries: a lost battle? *J Am Med Assoc.*, 1999; 281(4): 361-367.
17. Amidi S, Ajamee HR, Sadeghi M, Yourshalmi P, Gharehjah AM; Dispensing drugs without prescription and treating patients by pharmacy

attendants in Shiraz, Iran. AJPB; 1978, 68(5): 495-496.

18. Ezeukwu AO; Injection-induced sciatic nerve children among children managed in a

Nigerian physiotherapy clinic: A 5 year review. Journal of Medicine and Rehabilitation, 2007; 1 (1): 22-27.