

Patient's Perception of Hospital Pharmacists Roles: A Cross-Sectional Study in Two Nigerian Teaching Hospitals

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ABSTRACT

Background: Patients' perception of healthcare services, including pharmacy, is crucial for evaluating service quality and satisfaction. This study explores patients' perceptions of hospital pharmacists' roles in Nigerian teaching hospitals and examines how socio-demographic factors influence these perceptions. **Materials and Methods:** A questionnaire-based survey was conducted among outpatients attending the University of Nigeria Teaching Hospital (UNTH) in Enugu State and Ahmadu Bello University Teaching Hospital (ABUTH) in Kaduna State. Data analysis included descriptive statistics (frequency, percentage, mean, and standard deviation) and Chi-square tests to examine associations between socio-demographic characteristics and perception scores. SPSS version 25 was used to analyze the data. The statistical significance level was set at $p \leq 0.05$. **Results:** A total of 692 respondents participated in the study. Male respondents were 356 (51.4%), 428(61.8%) of the total respondents being married and 551 (79.6%) residing in urban areas. Patients expressed positive perceptions of hospital pharmacists' essential roles with a score of 82.98 ± 6.49 suggesting very favorable perception, including their expertise in drug-related inquiries and contributions to treatment. Marital status $\chi^2(4) = 9.603$, $p = 0.048$, educational level $\chi^2(4) = 15.381$, $p = 0.004$, and income $\chi^2(4) = 14.907$, $p = 0.001$ influenced perception scores. **Conclusion:** Patients in Nigerian teaching hospitals hold positive perceptions of hospital pharmacists' roles, recognizing their importance in healthcare delivery. Socio-demographic influences on perception can guide strategies to enhance patient-pharmacist interactions and optimize pharmaceutical care delivery.

Keywords: Patients, Perception, Hospital, Pharmacists, Nigeria.

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INTRODUCTION

The perception of service is one of the most important indicators of client satisfaction.¹ Patients' perception of a service, shows how a patient perceives or experiences a service rendered by a provider such as a healthcare professional and this impression could be used to evaluate the quality of service from the patient's perspective.² Patient's negative perception of pharmaceutical services may be a hindrance to medication therapy, this influences patients' awareness and attitude towards drug effectiveness and safety which could lead to patients' poor acceptability of medication and affect patients' adherence.³ Numerous determinants, including health-related and societal issues, influence pharmacists' perceptions of their roles.⁴ The role theory states the problem with pharmacists' consultation

and other pharmaceutical care activities might arise when clients and pharmacists have differing expectations of the pharmacist's position in health care.⁵ Majchrowska reported that the Polish society perceives community pharmacists' role as retailers or dispensers of medicines and was not interested in pharmacists' roles as health consultants.⁴ In 2011, El Hajj *et al.*, (2011) reported that the Qatar public had a negative impression and comprehension of community pharmacists' roles as healthcare providers.⁶ Community pharmacists in the United Kingdom were perceived as business-oriented by 32% of the general public, while 26% of the general public perceived community pharmacists to be primarily concerned with health, and 42% of the general public perceived community pharmacists to be concerned with both health and business.⁷ Hoti *et al.*, (2011) revealed that Australian clients have a high level of trust and competency in community pharmacists and have agreed to allow pharmacists to prescribe medications and provide medication-related counseling.⁸ Chewning & Schommer (1996) reported that providing clients with pamphlets about pharmacists' activities increases their knowledge about pharmacists' roles and training.⁹



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The public of Ga West District of Ghana visits community pharmacies for treatment of minor illnesses and advice on drugs. However, few of the participants viewed pharmacists' roles as a healthcare provider rather than as business ventures.¹⁰ Patients receiving care at Mizan-Tepi University Teaching Hospital's (MTUTH) outpatient pharmacy department and Anti-Retroviral Therapy (ART) clinic in South-West Ethiopia reported low perceptions and satisfaction with pharmaceutical services³ while patients receiving care at Lagos University Teaching Hospital (LUTH), Lagos State, Nigeria had a sub-optimal perception of pharmacy services.² In-patients receiving care at Jos University Teaching Hospital (JUTH) rated interpersonal relationships and managing drug therapy low despite having an overall good perception of hospital pharmacists' roles as pharmaceutical care providers.¹¹ The present study accessed patients' perceptions of hospital pharmacists in two selected Nigerian teaching hospitals.

MATERIALS AND METHODS

Study Design

This was a cross-sectional questionnaire survey to assess patients' perception of hospital pharmacist roles in the University of Nigeria Teaching Hospital (UNTH), Ituku Ozalla Enugu State, and Ahmadu Bello University Teaching Hospital (ABUTH) Shika, Zaria, Kaduna State.

Study setting

The research was carried out in the General Outpatient Department (GOPD) of Ahmadu Bello University Teaching Hospital (ABUTH), Shika, Zaria, Kaduna State, and University of Nigeria Teaching Hospital (UNTH), Ituku Ozalla, Enugu, Enugu State. The two hospitals were purposively chosen for being the first teaching hospitals in their respective geopolitical zones.

Study population

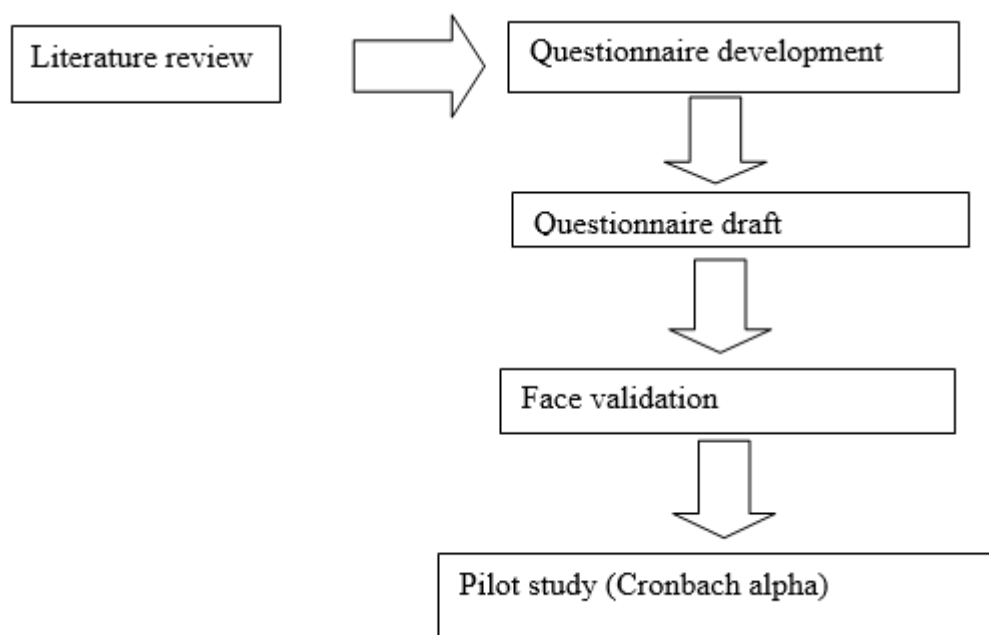
The patients who were willing to participate in the survey were conveniently sampled at the General Outpatient Department (GOPD).

Study instrument

The items measuring patients' perception of the hospital pharmacist's professional role were developed from the literature. The drafted questionnaire was face-validated by three lecturers from the Department of Clinical Pharmacy and Pharmacy Management and then a pilot study was conducted to ascertain the reliability of the questionnaire with 30 respondents, who were excluded from the study. The Cronbach alpha was 0.70, which is acceptable.¹² The study instrument was a 23-item questionnaire, which comprises two sections; the first section collects information on socio-demographics such as age, gender, marital status, educational level, residence, employment status, monthly income, satisfaction with income while the second section collected information on patient's perception of hospital pharmacists' roles. It is a 15-item questionnaire and the response option was a 4-point Likert scale and was coded as follows strongly disagree-1, disagree-2, agree-3, strongly agree-4- 4.

Eligibility criteria; included

- Visiting the General Outpatient Department for a clinic appointment (GOPD).
- The patient must be at least 18 years old.
- The patient is willing to take part in the study.
- The patient should be able to communicate (both verbally and in writing).



Data Collection

A validated questionnaire was self-administered to patients attending clinic at the General Out-Patient Department (GOPD). Each patient who agreed to participate in the survey, provided oral informed consent. The completed questionnaire was promptly retrieved.

Flow chart

Ethical consideration

Health Research Ethics Committees (HRECs) of Ahmadu Bello University Teaching Hospital (ABUTH), Shika, Zaira, Kaduna State (ABUTHZ/HREC/W3/2019), University of Nigeria

Table 1: Socio-demographic characteristics of patients' perception of roles of hospital pharmacists. (n= 692).

Variables	Frequency	Percentage
Age (years)		
18-25	175	25.3
26-35	195	28.2
36-45	154	22.3
46-55	91	13.2
≥ 55	77	11.1
Gender		
Male	336	48.6
Female	356	51.4
Marital status		
Single	193	27.9
Married	428	61.8
Separated	16	2.3
Divorced	36	5.2
Widow	19	2.7
Highest educational level		
None	31	4.5
Primary	51	7.4
Secondary	231	33.4
Tertiary	312	45.1
Postgraduate	67	9.7
Residences		
Rural	141	20.4
Urban	551	79.6
Employment status		
Students	141	20.4
Unemployed	222	32.1
Employed	314	45.2

Variables	Frequency	Percentage
Retired	15	2.2
Monthly income (₦)		
<18,000	202	29.2
18,000-50,000	221	31.9
50,000- 100,000	132	19.1
100,000-200,000	107	15.5
>200,000	30	4.3
Satisfaction with income		
Not sufficient	290	41.9
Meet the needs	273	39.5
Allow savings	129	18.6
Hospital		
UNTH	377	54.5
ABUTH	315	45.5

Teaching Hospital, Itu Ozalla, Enugu State (NHREC/05/01/2008B-FWA00002458-1RB00002323), and National Health Research Ethic Committees (NHREC/TR/08/10/2013A) provided ethical approval. Throughout the study, confidentiality was maintained by not requesting the names of the participants or any other information that may be used to identify them. Oral Inform consent was obtained from each participant.

Data analysis

The collected data was coded, cleaned, and entered into Microsoft Excel and then exported into IBM Statistical Product and Service Solutions (SPSS) for Windows, specifically Version 23.0, developed by IBM Corp (Version 21.0, Armonk, NY, USA). Descriptive statistics, including frequency, percentage, mean, and standard deviation, were employed to summarize the data. The mean percentage perception score was used to categorize patients' perceptions into poor and good perceptions. Pearson chi-square test was used to determine the association between patients' socio-demographic characteristics and perception score of the role of hospital pharmacists. This statistical approach aimed to provide a comprehensive understanding of the relationships and patterns within the collected data. All statistically significant was set as $p < 0.05$.

RESULTS

A total of 692 respondents participated in the study of which 356 were male. Respondents between the ages of 26-35 years and 36-45 years were 195 (28.2%) and 154 (22.3%) respectively. Participants who were married were 428 (61.8%) and those who had tertiary education were 312 (45.1%). Respondents residing in urban areas of the states were 551 (45%) with 221 (31.9%)

respondents earning 18,000-50,000 naira monthly and 290 (41.9%) respondents having insufficient income. See Table 1.

Table 2 displays the patient's perception of hospital pharmacists' role. The question "Pharmacists need to be neat and professionally dressed" had the highest rating 3.79 ± 0.42 , followed by the question "Pharmacy profession is essential to the hospital" 3.64 ± 0.55 , while the question "Pharmacists do not need to monitor my response to drug therapy" had the least rating 1.54 ± 0.86 .

Table 3 highlights the association between categorized patients' perception scores and the socio-demographic characteristics

of patients. The mean percentage score reflecting patients' perceptions was found to be 82.98 ± 6.49 . Notably, a higher proportion of married respondents exhibited a favorable perception of the roles of hospital pharmacists [$X^2(4) = 9.603, p = 0.048$]. Similarly, a significant association was observed between patients with tertiary education had a positive perception of the roles of hospital pharmacists [$X^2(4) = 15.381, p = 0.004$]. Additionally, a higher proportion of patients reporting that their income met their needs displayed a favorable perception of the roles of hospital pharmacists [$X^2(4) = 14.907, p = 0.001$].

Table 2: Patients' perception of the roles of hospital pharmacists. (n=692).

Items	SD	D	A	SA	Mean ±SD
1. Pharmacy profession is essential to the hospital.	7 (1.0)	2 (0.3)	225 (32.5)	458 (66.2)	3.64 ± 0.55
2. Pharmacists are sufficiently trained to answer questions on drugs.	4 (0.6)	11 (1.6)	361 (52.2)	316 (45.7)	3.43 ± 0.56
3. Pharmacists need to introduce themselves before interacting with me.	8 (1.2)	29 (4.2)	469 (67.8)	186 (26.9)	3.20 ± 0.56
4. I am comfortable discussing about drugs with pharmacists.	4 (0.6)	13 (1.9)	431 (62.3)	244 (35.4)	3.32 ± 0.54
5. Pharmacists are essential health care professionals that need to take part in my treatment.	3 (0.4)	32 (4.6)	212 (30.6)	445 (64.3)	3.59 ± 0.60
6. Pharmacists do not need to collaborate with other health care professionals in the hospital in managing my drug therapy.	81 (11.7)	46 (6.6)	395 (57.1)	170 (24.6)	2.05 ± 0.88
7. Pharmacists in the hospital need to participate in clinical ward rounds to monitor my drug therapy.	13 (1.9)	52 (7.5)	472 (68.2)	155 (22.4)	3.11 ± 0.60
8. Pharmacists need to assess my drug prescriptions to ensure that there are no errors and that they are appropriate and safe.	46 (6.6)	27 (3.9)	208 (30.1)	411 (59.4)	3.42 ± 0.85
9. Pharmacists should allow only nurses to educate me on my drugs.	24 (3.5)	36 (5.2)	343 (49.6)	289 (41.8)	1.70 ± 0.72
10. Pharmacists should have access to my case file(folder) to enable them to monitor my drug treatment.	30 (4.3)	43 (6.2)	467 (67.5)	152 (22.0)	3.07 ± 0.67
11. Pharmacists do not need to intervene in the event of any form of drug-related problem with my therapy/treatment.	68 (9.8)	206 (29.8)	196 (28.3)	222 (32.1)	2.17 ± 0.99
12. Pharmacists can recommend alternative drugs if they discover problems with my drugs (to the doctor).	5 (0.7)	24 (3.5)	316 (45.7)	347 (50.1)	3.45 ± 0.60
13. Pharmacists do not need to monitor my response to drug therapy.	44 (6.4)	38 (5.5)	168 (24.3)	442 (63.9)	1.54 ± 0.86
14. Pharmacists need to keep a record of all drugs that have been dispensed to me.	7 (1.0)	15 (2.2)	484 (69.9)	186 (26.9)	3.23 ± 0.53
15. Pharmacists need to be neat and professionally dressed.	1 (0.1)	3 (0.4)	131 (18.9)	557 (80.5)	3.79 ± 0.42
Mean percentage perception score.	82.98				
Poor perception.	273 (39.5)				
Good perception.	419 (60.5)				

SD-Strongly disagree, D- disagree, N- neutral, A-agree, SA- Strongly agree.

DISCUSSION

This study was conducted to assess patients' perception of hospital pharmacists' roles in two selected Nigerian teaching hospitals.

Summary of findings

The study comprised 692 participants, mostly males and aged 26-35. A significant number of participants were employed, earning between 18,000 and 50,000 Naira. The study focused on understanding patients' perspectives on the roles of hospital pharmacists. The responses indicated a high mean agreement score regarding pharmacists being essential healthcare professionals in the hospital, playing a crucial role in treatment, and maintaining a professional appearance. When examining the association between patients' socio-demographic characteristics and perception scores, individuals who were married had higher educational levels, resided in urban areas, and had expressed satisfaction with their income showing a notably positive perception of hospital pharmacist roles.

Comparison with other studies

Overall, patients in both hospitals had a good perception of hospital pharmacists' roles. This finding is similar to that reported among community pharmacists of greater New Orleans¹³ that patients had a good perception of pharmacists and were willing to participate in pharmacists-led programs.

In this study, Patients were comfortable discussing drug-related problems with the pharmacists. This could be, because pharmacists are highly trained healthcare professionals with specialized knowledge of medications and their effects as mentioned by Krueger & Hermansen-Kobulnicky (2011).¹⁴

Patients in this study strongly opined that hospital pharmacists need to be neat and professionally dressed. These findings corroborate with that reported in a study, patients preferred to be attended to by a pharmacist who is professionally dressed.¹⁵ The saying that "you are addressed by the way you are dressed" comes into play. That is, a neat and professionally dressed pharmacist looks smart, confident, knowledgeable, and competent and this could build up the patient expectation of the services that they would receive from the pharmacy department of the healthcare facility.

The majority of the patients agreed that the pharmacy profession is essential to healthcare facilities. This finding is congruent with that reported in other studies.^{11,16} A study of the perception of Pharmaceutical Care (PC) roles of pharmacists among in-patients in a tertiary care facility in Nigeria reported patients had a good perception of the pharmacy profession's role in PC and also in managing drug therapy problems.¹¹ Also, in another cross-sectional study conducted in Pakistan about Patients' opinion of pharmacists and their roles in the health care system, majority of the participants interacted with the pharmacist

regularly and the major reason for this interaction, was drug alternative and drug availability queries, while most patients agree that pharmacists are an important part of health care system.¹⁶

The socio-demographic characteristics of patients were found to influence their perception of hospital pharmacists' roles. Specifically, a higher proportion of married patients living in urban areas demonstrated a more positive perception compared to unmarried patients residing in rural areas. This observation is consistent with findings in other studies.^{17,11} It could be suggested that married patients are burdened with family responsibilities such as taking care of the family when they are sick and thus, seek medical treatment from the most accessible healthcare professionals, and pharmacists are widely recognized as the most accessible healthcare providers.^{18,10}

Also, higher educational attainment and residing in an urban area also had a positive perception regarding the role of hospital pharmacists. This could be attributed to the fact that individuals with higher levels of education often possess a deeper understanding of the healthcare system and are more likely to appreciate the specialized expertise that pharmacists bring to healthcare. Education may enhance awareness of the critical role pharmacists play in patient care, fostering a positive perception among individuals with advanced educational backgrounds.¹⁹ Furthermore, residing in an urban area might expose individuals to a more extensive network of healthcare facilities, increasing their interactions with various healthcare professionals, including pharmacists. Urban residents often have greater access to healthcare services²⁰ allowing them to witness firsthand the valuable contributions of hospital pharmacists. This exposure and regular interaction could contribute to a more positive perception, as urban dwellers may better appreciate the immediate and accessible support provided by pharmacists in addressing their healthcare needs.

Recommendations

To improve the positive perception of patients towards the role of hospital pharmacists, we proffer the following recommendations.

Enhance Patient Education Programs

Implement targeted patient education programs to raise awareness of hospital pharmacists' roles, emphasizing their specialized training and contributions to patient care. These programs should be geared towards accommodating diverse educational backgrounds and socio-demographic characteristics among patients.

Professional Development and Training for Pharmacists

Prioritize ongoing professional development for hospital pharmacists to keep them updated on the advancements in pharmaceutical care. This investment will enhance their

Table 3: Association between patients' socio-demographic characteristics and categorized percentage perception score. (n=692).

Variables	Poor perception	Good perception	χ^2 (d _f)	p-value
Age (years)				
18-25	66 (24.2)	109 (26.0)	5.502 (4)	0.240
26-35	70 (25.6)	125 (29.8)		
36-45	73 (26.7)	81 (19.3)		
46-55	34 (12.5)	57 (13.6)		
≥55	30 (11.0)	47 (11.2)		
Gender				
Male	127 (46.5)	209 (49.9)	0.747 (1)	0.387
Female	146 (53.5)	210 (50.1)		
Marital status				
Single	90 (33.0)	103 (24.6)	9.603 (4)	0.048
Married	151 (55.3)	277 (66.1)		
Separated	9 (3.3)	7 (1.7)		
Divorced	16 (5.9)	20 (4.8)		
Widow	7 (2.6)	12 (2.9)		
Educational level				
None	9 (3.3)	22 (5.3)	15.381 (4)	0.004
Primary	8 (2.9)	43 (10.3)		
Secondary	100 (36.6)	131 (31.3)		
Tertiary	129 (47.3)	187 (43.7)		
Postgraduate	27 (9.9)	40 (9.5)		
Residences				
Rural	66 (46.8)	207 (37.6)	4.013 (1)	0.045
Urban	75 (53.2)	344 (62.4)		
Employment status				
Students	50 (18.3)	91 (21.7)	7.182 (3)	0.066
Unemployed	81 (29.7)	141 (33.7)		
Employed	139 (50.9)	175 (41.8)		
Retired	3 (1.1)	12 (2.8)		
Monthly income (₦)				
<18,000	76 (27.8)	126 (30.1)	8.355 (4)	0.079
18,000-50,000	80 (29.3)	141 (33.7)		
50,000- 100,000	56 (20.5)	76 (18.1)		
100,000-200,000	53 (19.4)	54 (12.9)		
>200,000	8 (2.9)	22 (5.3)		
Satisfaction with income				
Not sufficient	127 (46.5)	163 (38.9)	14.907 (2)	0.001
Meet the needs	84 (30.8)	189 (45.1)		
Allow savings	62 (22.7)	67 (16.0)		
Hospital				
UNTH	197 (72.2)	180 (43.0)	56.839 (1)	<0.0001
ABUTH	76 (27.8)	239 (57.0)		

competence and communication skills, fostering strong connections with patients through empathy and cultural sensitivity.

Implement Patient-Centric Services

Implement patient-centric services in hospital pharmacy departments, including counselling sessions, medication therapy management programs, and collaboration with healthcare professionals. Encourage pharmacist involvement in clinical rounds and interdisciplinary teams to reinforce their essential role in patient care, fostering a more integrated healthcare delivery model.

Promote Professional Appearance and Image

The importance of a professional appearance for hospital pharmacists through enforced dress codes, aligning with patient preferences, and building trust in the healthcare system should be stressed. A polished image would positively influence patient expectations, enhancing the overall healthcare experience.

CONCLUSION

Patients in both surveyed hospitals held a positive perception of hospital pharmacists' roles. They acknowledged the essential nature of the pharmacy profession within the hospital setting. Patients believed that pharmacists were adequately trained to address drug-related inquiries and played an active role in their treatment, including monitoring prescriptions for potential drug interactions and errors. Strong agreement was expressed regarding the importance of pharmacists maintaining a neat and professional appearance. Significant socio-demographic factors influencing a positive patient perception included marital status, educational level, and satisfaction with income. These findings highlight the critical role of these factors in shaping patients' views on the contributions and capabilities of hospital pharmacists.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

MTUTH: Mizan-Tepi University Teaching Hospital; **ART:** Anti-Retroviral Therapy; **LUTH:** Lagos University Teaching Hospital; **JUTH:** Jos University Teaching Hospital; **UNTH:**

University of Nigeria Teaching Hospital; **ABUTH:** Ahmadu Bello University Teaching Hospital; **GOPD:** General Out Patient Department.

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