



Perception of Schizophrenic Patients on the Roles of Pharmacists in Care Optimization

H Yusuf^{1*}, A Giwa², S Mohammed², Samira N. Abdu-Aguye², Nasiru Y. Ikunaiye³, Mustapha A. Alfa⁴

¹Department of Clinical Pharmacy and Pharmacy Administration, University of Maiduguri, Maiduguri, Nigeria.

²Department of Clinical Pharmacy and Pharmacy practice, Ahmadu Bello University, Zaria, Kaduna state, Nigeria.

³Department of Pharmaceutical services, University of Maiduguri Teaching Hospital, Maiduguri, Nigeria.

⁴Department of Clinical Pharmacy and Pharmacy practice, Gombe State University, Gombe State, Nigeria.

Correspondence Author: Hadiza Yusuf

Email: hadizayusuf3@gmail.com Phone: 07036901906, 09085606817

Abstract

Patient perception has gained a lot of attention in recent times, and is now considered an integral component in the determination of pharmaceutical care outcomes. This study was a cross sectional study aimed at evaluating the perceptions of Schizophrenic patients of the roles of Pharmacists in care optimization between September and November 2016 at Federal Neuro-Psychiatric Hospital Maiduguri. Consenting Schizophrenic patients were administered a 13 item interviewer administered questionnaire with 3 domains: managing therapy, interpersonal relationship and general satisfaction. Chi-square test was used to compare categorical variables while factors associated with the perceptions of patients were analysed using logistic regression. The highest perception score was in general satisfaction (82.3%), followed by interpersonal relationship (74.3%). Managing therapy had the least score of 48.6%. Only 43.7% of the Schizophrenic patients had good perception of the roles of pharmacists. Factors including age, gender and marital status had no significant correlation with patients' perceptions while level of education showed a significant correlation. Pharmacists need to put more effort in providing care to schizophrenic patients with particular emphasis on managing therapy. Specific attention should be targeted towards schizophrenic patients with only primary or no formal education. In discharging their roles to this group of patients, pharmacists should provide adequate care and invest more time to patient care and education about their disease state and drugs in order to improve outcome.

Keywords: Perception, Schizophrenic patients, pharmacists, roles, Care optimization.

Introduction

Schizophrenia is one of the most complex and challenging of psychiatric disorders. It represents a heterogeneous syndrome of disorganized and bizarre thoughts, delusions, hallucinations, inappropriate affect, and impaired psychosocial functioning (American Psychiatric Association, 2000). It is a serious brain disorder that distorts the way a person thinks, acts, expresses emotions, perceives reality, and relates to others. People with schizophrenia often have problems functioning in society, at work, at school, and in relationships. Schizophrenia can leave its sufferer frightened and withdrawn. It is a lifelong disease that cannot be cured but can be controlled with proper treatment (Schizophrenia Center, 2016).

Over the years, patient perception has gained much attention and has been considered as an integral component in the determination of care outcomes (Rosenthal and Shannon, 1997). Determining the perceptions of patients is useful in evaluating successful medical therapy and patient needs. Therefore, it is of paramount importance to involve patients and assess their views on various aspects of their treatment (Ahmed *et al.*, 2012). Because of the variety of medical treatment available, frequent occurrence of side effects from drug treatment and extremely low medication compliance associated with this condition, Pharmacists have an important role to play in the overall successful treatment of patients with schizophrenia. An important aspect of clinical pharmacy practice is the provision of pharmaceutical care. Pharmaceutical care is the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life. It is a process through

which pharmacists work both with patients and other healthcare professionals to design, implement, and monitoring therapeutic procedures that aim at improving patient outcomes (Hepler and Strand, 1990).

While other studies have evaluated patient perception of the roles of pharmacists in the management of several disease conditions (Igbunugo *et al.*, 2014; Erah and Chuks-Eboka, 2008), little is known about the perceptions of schizophrenic patients on the roles of pharmacists in optimizing their care. Therefore, this study aimed at evaluating the perception of schizophrenic patients on the roles of Pharmacists in care optimization. It is hoped that understanding these perceptions will help pharmacists assess the level of care they provide to schizophrenic patients and determine areas for/requiring improvement.

Materials and methods

Design and setting:

A cross sectional study was carried out between September and November 2016 at the Federal Neuro-Psychiatric Hospital (FNPH) Maiduguri, located in the North-eastern part of Nigeria. FNPH, Maiduguri is a regional Psychiatric Hospital, serving the north-east region of Nigeria which consists of (Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe States). Patients from the neighbouring countries of Chad, Cameroon and Niger Republics are also often encountered.

Sample size estimation and sampling procedure:

The prevalence of schizophrenia in FNPH was estimated to be 9.63%. Based on this the required sample size for this

study was calculated as shown below (Ahmed *et al.*, 2012).

$$\text{Sample size, } n = \left[\frac{z}{\Delta} \right]^2 p (1-p)$$

$$n = [1.96/0.05]^2 0.096(1-0.0963)$$

$$n = 39.2^2 \times 0.096 \times 0.9037$$

$$n = 133$$

n = required sample size

z = standard deviation = 1.96

Δ = Absolute precision = 0.05 (5%)

p = Anticipated population proportion = 9.63%

Adding 20% of this to take care of attrition;

$$(20/100) \times 133$$

$$0.2 \times 133 = 27$$

$$133 + 27 = 160$$

Therefore, the sample size for schizophrenic patients used for this study was estimated to be 160 subjects.

Ethical approval was obtained from the ethics committee of the Hospital.

Included in the study were male and female schizophrenic out-patients attending the Hospital, that were physically and emotionally stable, had been well controlled with antipsychotic medication for at least 6 months, were 15 years of age or older and had consented to participate in the study. Selection of the study sample was done using systematic random sampling (sample interval- $n=2$) on clinic days (Mondays, Tuesdays, Thursdays and Fridays) until 160 schizophrenic patients could be interviewed.

Selected patients were interviewed in the patients' waiting area of the Department of Pharmaceutical Services of the Hospital. The purpose of the interview (to fill the questionnaires) and confidentiality of information provided was explained to each patient that was approached to participate. Informed consent was then obtained before the questionnaires were filled.

Survey instrument

A 13-item, interviewer administered questionnaire was used for the survey. To ensure validity and reliability, questionnaire items were adapted from a previous study (Luz *et al.*, 2007) and then modified. The questions were reviewed by a clinical pharmacist for face validity and then pretested on 16 schizophrenic patients. Appropriate adjustments were then made as necessary. The instrument contained 2 sections. Section one contained questions that assessed socio-demographic characteristics of the respondents including gender, age etc. While the second

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section included questions assessing schizophrenic patients' perceptions of the roles of pharmacists in optimizing their care. In each of the items, patients were asked to rate their perception of pharmacists' roles in care optimization on a scale of 1-5, with 5 indicating the highest score.

Managing therapy:

Questions under this domain assessed patients' perception of the pharmacists' effort to check with them about how well their medications were working, give them information about proper storage of their drugs and result they could expect from their drug therapy amongst others.

Interpersonal relationship:

Areas assessed here included patient perceptions of pharmacists' interest in their health and, professional relationship with the pharmacists. Others include, help rendered to avoid unnecessary costs, time taken to attend to patients, instructions given about how to take their medication and the manner in which pharmacists answered their questions.

General satisfaction:

This was assessed by the perceptions of the respondents on the privacy of their conversations with the pharmacists, professional appearance of the pharmacists and satisfaction with overall pharmacy services.

Data analysis:

Individual patient scores for each of the 3 domains and the pooled scores (overall score for all 3 domains) were obtained. The perception for each domain and the pooled perception (overall perception from the 3 domains) were obtained based on the mean score from each domain and the pooled. For the different domains and the pooled perception scores, patients scoring up to the mean score and above were considered to have good perceptions while those who had scores below the mean were considered to have poor perceptions. Logistic regression was used to find associations between socio demographic variables and patient perception while Chi – square test was used to find significant differences between categorical variables. P – Values of ≤ 0.05 were considered to be statistically significant. Statistical package for social science (SPSS) version 20 (SPSS Inc, Chicago, Illinois, USA) was used for statistical analysis.

Results

A total of one hundred and sixty patients were interviewed giving a response rate of 100%. Out of the 160 patients interviewed, 93 (58.1%) were males while 67 (41.9%) were females.

Eighty five (53.1%) out of the 160 patients fell within the age range of 25-40. Ninety patients (56.3%) had no formal education. Seventy four patients (46.3%) were single, 53 (33.1%) were married, 17 (10.6%) were divorced while 16 (10.0%) were widowed (Table I).

In managing their therapy, 50 (31.2%) patients rated efforts of pharmacists to check with them about how well their medications were working as 5 (highest score) while 47 (29.4%) rated the item 1 (lowest score). On giving them information about the proper storage of their drugs, seventy five patients (46.9%) out of 160 rated pharmacists' effort as 1 (lowest score). One hundred and fifteen patients (74.7%) also rated the pharmacist efforts in giving them information about expected result of medical therapy as 1.

Roles of pharmacists in ensuring good interpersonal relationships on all assessed aspects was rated 3 and above by majority of the patients. Under the general satisfaction domain, privacy of conversation with the pharmacists was rated 4 by 47 patients (28.8 %). Professional appearance of pharmacists was rated 5 by 85 (53.1%) of patients. Satisfaction with pharmacy services overall was rated 5 by 101 (63.1%) of the patients (Table II).

The highest perception score was in the domain of general satisfaction (82.3%), followed by interpersonal relationship (74.3%). Managing therapy had the lowest score of 48.6 % (Table III).

For the different domains and the pooled perception scores, patients scoring up to the mean score and above were considered to have good perceptions while those who had scores below the mean were considered to have poor perceptions.

The general satisfaction domain had the highest number of respondents with good perceptions (53.1 %), followed by the interpersonal relationship domain (50.6%). Managing therapy had the least number of respondents with good perception (49.4%). For the pooled perceptions, only 43.7 % had good perception (Table IV).

Several socio-demographic factors including age, gender and marital status showed no significant correlation with respondents perceptions. However, secondary and tertiary education showed significant correlations even after adjusting for other confounding variables. The only demographic characteristic that showed any association with perception was the educational level of respondents. Schizophrenic patients with secondary education were 4.9 times more likely to perceive pharmacists' roles as being good than patients with no formal education. Similarly, patients with tertiary education were also 7.3 times more likely to have good perceptions of pharmacists' role (Table V).

Table I : Distribution of Schizophrenic patients according to their socio-demographic characteristics in FNPH Maiduguri.

Variables	Distribution (n=160)	Percentage distribution (%)
Sex		
Male	93	58.1
Female	67	41.9
Age group (years)		
< 25	35	21.9
25-40	85	53.1
>40	40	25.0
Level of education		
Primary	25	15.6
Secondary	28	17.5
Tertiary	17	10.6
No formal education	90	56.3
Marital status		
Single	74	46.3
Married	53	33.1
Divorced	17	10.6
Widowed	16	10.0

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Table II: Distribution of Schizophrenic Patients' perception scores across the three activity domains in FNPH Maiduguri.

Activity	Items	n= 160				
		Score Frequency (%)				
Domains		1	2	3	4	5
Managing therapy						
	The Pharmacist's effort to check with you about how well your medications are working	47 (29.4)	9 (5.6)	27 (16.9)	27 (16.9)	50 (31.2)
	The Pharmacist's effort to give you information about the proper storage of your drug	75 (46.9)	9 (5.6)	19 (11.9)	21 (13.1)	36 (22.5)
	The Pharmacist's effort in giving you information about the result you can expect from your drug therapy	115(74.7)	8 (5.2)	9 (5.8)	10 (6.5)	12 (7.8)
	The Pharmacist's effort in using information about your previous condition/drugs when assessing your drug therapy	86 (53.8)	5 (3.1)	21 (13.1)	19 (11.9)	29 (18.1)
Interpersonal relationship						
	The Pharmacist's interest in your health	14 (8.8)	11 (6.8)	25 (15.6)	56 (35.0)	54 (33.8)
	The Pharmacist's professional relationship with you	19 (11.8)	18(11.3)	32 (20.0)	40 (25.0)	51 (31.9)
	The help you get from the Pharmacist to avoid unnecessary costs related to your prescriptions	34 (21.2)	3 (1.9)	20 (12.5)	55 (34.4)	48 (30.0)
	The amount of time the Pharmacists spend with you	35 (21.9)	19(11.9)	32 (20)	37 (23.1)	36 (22.5)
	The Pharmacist's effort in giving you instruction about how to take your medication	2 (1.3)	2 (1.3)	17 (10.6)	46 (28.7)	93 (58.1)
	The way the Pharmacists answer your question	5 (3.3)	5 (3.3)	27 (17.9)	41 (27.2)	73 (48.3)
General satisfaction						
	The privacy of your conversation with the pharmacist	28 (17.5)	11 (6.8)	32 (20.0)	46 (28.8)	43 (26.9)
	The professional appearance of the pharmacist	0 (0.0)	0 (0.0)	16 (10.0)	59 (36.9)	85 (53.1)
<i>Item score: 1= lowest score and 5= highest score.</i>						
	Your pharmacy services overall	0 (0.0)	0 (0.0)	14 (8.8)	45 (28.1)	101(63.1)

Table III: Mean perception scores of Schizophrenic patients' perception of Pharmacists' roles across all assessed domains in FNPH Maiduguri.

Domain	Total p.score	N	P. score Mean (SD)	P. score (%) Mean (SD)
Perception regarding managing therapy	20	160	9.7 (4.1)	48.6 (20.9)
Perception regarding interpersonal relationship	30	160	22.3 (5.1)	74.3 (17.2)
Perception regarding general satisfaction	15	160	12.3 (2.0)	82.3 (13.9)
Pooled perception score	65	160	44.4 (8.5)	68.3 (13.1)
P=perception score				

Table IV: Schizophrenic patients' perception of pharmacist roles across assessed domains in FNPH Maiduguri.

Domain	Perception		Test statistics			Total (%)
	Good (%)	Poor (%)				
Managing therapy	79 (49.40)	81 (50.60)	$\chi^2=0.025$	P=0.874	df=1	160 (100)
Interpersonal relationship	81 (50.60)	79 (49.40)	$\chi^2=0.025$	P=0.874	df=1	160 (100)
General satisfaction	85 (53.10)	75 (46.90)	$\chi^2=0.625$	P=0.625	df=1	160 (100)
Pooled	70 (43.75)	90 (56.25)	$\chi^2=2.500$	P=0.114	df=1	160 (100)

Table V. Association between Schizophrenic patients' perception of Pharmacists' roles and socio-demographic characteristics in FNPH Maiduguri.

Factors	F	GP (%)	P Value	Univariate		P Value	Multivariate	
				OR	95 CI		OR	95 CI
Age								
< 25	35	54.3	0.309	1.607	0.644 - 4.007	0.636	1.339	0.400 - 4.476
25 - 40	85	40.0	0.791	0.902	0.421 - 1.933	0.436	0.684	0.263 - 1.778
> 40	40	42.5	Ref					
Gender								
Male	93	43.0	Ref					
Female	67	44.8	0.824	1.074	0.571 - 2.023	0.120	1.993	0.835 - 4.755
Level of education								
No formal Education	90	31.1	Ref					
Primary	25	44.0	0.231	1.740	0.702 - 4.310	0.434	1.471	0.559 - 3.868
Secondary	28	67.9	0.001	4.675	1.882 - 11.614	0.001	4.927	1.869 - 12.986
Tertiary	17	70.6	0.004	5.314	1.709 - 16.529	0.001	7.293	2.149 - 24.751
Marital Status								
Single	74	50.0	Ref					
Married	53	41.5	0.345	0.710	0.348 - 1.446	0.545	0.199	1.490 - 1.490
Divorced	17	29.4	0.132	0.417	0.133 - 1.301	0.559	0.153	2.039 - 2.039
Widowed	16	37.5	0.367	0.600	0.198 - 1.821	0.552	0.142	2.143 - 2.143

Logistic regression: F= Frequency, GP= Good perception, OR= odd ratio, Ref=Reference.

Discussion

Majority of the patients were male. This may be due to the fact that the onset of schizophrenia tends to be earlier in males than females (American Psychiatric Association, 2000). The age group with the highest number of patients was 25-40. This agrees with earlier studies which reveal that schizophrenia have its onset in late adolescence or early adulthood (American Psychiatric Association, 2000). Large proportions of the patients had no formal education and were single. This might reflect the fact that most patients suffering from schizophrenia will to a certain extent, be disabled due to the disorder, which could eventually lead to their withdrawal from active society (Rijcken *et al.*, 2002).

Under the managing therapy domain, less than half of the patients rated the efforts of pharmacists in checking with them about how well their medications were working as 5 (highest score). Pharmaceutical care is outcome oriented; therefore pharmacists need to determine whether their interventions actually improve patient outcomes (Azuka, 2010). About half of the patients rated the pharmacists' effort in giving them information about the proper storage of their drug as 1 (lowest score). Proper storage is necessary to ensure stability and efficacy of drugs.

Majority of schizophrenic patients rated very low pharmacists' efforts in giving them information about results they could expect from their drug therapy. This is similar to findings from an earlier research which revealed that an important aspect lacking in schizophrenia care, was the sufficient delivery of detailed antipsychotic drug information (Rijcken *et al.*, 2002). Informing patients and their relatives about various aspects of medication use can improve patient confidence in care providers and medication. Another area where respondents scored pharmacists very low was in using information about their previous conditions/drugs to assess their drug therapy. An important step in pharmaceutical care is to collect patient specific subjective and objective data.

Pharmaceutical care is patient-centred and good patient interaction is a prerequisite for this.

Establishing a therapeutic relationship facilitates patients' granting authority to the pharmacist to undertake responsibilities on the patients' behalf (Azuka, 2010).

Results from this study showed good patient perceptions of pharmacist roles in ensuring interpersonal relationship in all aspect.

Majority of the patients were generally satisfied with the role of the pharmacists in optimizing their care. Patient satisfaction is an integral component of quality healthcare. High satisfaction promotes positive health behaviours such as compliance and continuity with providers (Zastowny *et al.*, 1989). Patients who are satisfied with their overall care are more likely to take medications properly and less likely to change from one healthcare professional to another (Zastowny *et al.*, 1989).

Within the different domains studied in this work, general satisfaction had the highest score while managing therapy had the least score. This is similar to a previous study where it was also discovered that managing therapy had a lower score compared to the other domains (Igbunugo *et al.*, 2014). It has also been shown that patients are not very familiar with drug therapy as an expanded responsibility of the pharmacist (Law *et al.*, 2008). Managing therapy is an important aspect of pharmaceutical care and the roles of pharmacists in this aspect need to be highlighted.

Socio-demographic factors such as age, gender and marital status did not show any significant correlation with the perception of schizophrenic patients except level of education which showed significant correlation. Patients with secondary or tertiary education were more likely to have good perceptions of pharmacists' roles than those with primary or no formal education. This is similar to a previous study where it was discovered that patients with higher education denote a higher score for satisfaction and trust (Feras, 2011).

Findings from the study revealed that a little over half of Schizophrenic patients had poor perceptions of the roles of pharmacists in care optimization. However, there was no statistically significant difference between the groups that perceived the role of pharmacists as poor and those that perceived it as good. Level of education was the only socio-demographic characteristic with significant correlation to Schizophrenic patients' perception. Patients with higher levels of education were more likely to have good perceptions.

Pharmacists need to put more effort in providing care to schizophrenic patients with particular emphasis on managing therapy. Specific attention should be targeted towards schizophrenic patients with only primary or no formal education. In discharging their roles to this group of patients, pharmacists should provide adequate care and invest more time to patient care and education about their disease state and drugs in order to improve outcomes.

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