Science Article

ASSESSMENT OF PATIENT–PHARMACIST COMMUNICATION IN A TERTIARY HEALTH INSTITUTION IN NORTH CENTRAL NIGERIA

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ABSTRACT

Background: Good patient-pharmacist communication is known to increase medication adherence among patients. Hence, it serves as a means to improve patient adherence to their medication regimen.

The study was conducted to determine whether improved patient-pharmacist communication in a tertiary health institution in North Central Nigeria will increase patients' adherence to their medications. This is with the aim of evaluating four contextual cues (patient age, gender, educational status and patient question asking behavior) which may be associated with the content of patient-pharmacist communication.

Method: A pretested questionnaire was administered on the 55 pharmacists in the institution. Three hundred and sixty (360) patient-pharmacist encounters were recorded, investigated and analyzed. The observation was carried out within a time interval of 4 hours (11:00 am – 2:00 pm) daily on Mondays through Saturdays for a period of one month. Two observational check lists were used to observe the interaction between patients and pharmacists.

Results: Forty-one (74.5%) pharmacist responded out of the 55 pharmacists. Of the 360 patients (aged 1 – 82 years, average 34.6) observed, 208 (58%) were male and 152 (42%) were female. All the patients observed received information on availability of medicine, cost and route of administration, dose and dosing frequency. Some received information on; 12 (3.3%) on health condition, 12 (3.3%) on duration of use, 11 (3.0%) on drug interactions and 8 (2.2%) on side effects. No patient received information on indication, monitoring for effectiveness, contraindication or repeat visit. Only 63 (17.5%) asked questions (22.2% and 77.85 were illiterate and literate respectively).

Conclusion: The provision of pertinent information on medications to patients by pharmacists in the tertiary health institution is generally poor. Patient asking behavior was generally unsatisfactory.

Keywords: Patient- pharmacist communication, Information, Medication, Adherence

INTRODUCTION

Chronically ill patients are particularly vulnerable to poor health outcomes if they do not adhere closely to their medication regimen, and non-adherence can lead to more outpatient medical care visits and hospitalizations. Further, patients with chronic illnesses such as diabetes and heart diseases, who do not adhere to medication instructions, have significantly higher mortality rates than those who adhere.[1] It has been shown that treatment non-adherence undermines the efficient distribution of resources from the perspective of public health and service delivery.[2] Research has also shown that 50% of people suffering from chronic diseases do not adhere to their treatment regimens and hence do not derive optimum benefits.[3]

Good patient-pharmacist communication not only saves significant work place cost and reduce physician and emergency room visits, but also increases medication compliance/adherence among patients.[4]

Patient information leaflet is important in patient-pharmacist communication. While patient counseling and strategies have shown that positive results could be achieved, some patient factors can make matters more challenging. For example, it was noted by some pharmacists that often the person coming with the prescription is not the patient. In such cases, easy to understand medication literature may be the primary means of encouraging adherence. More frequent and meaningful interactions with patients will increase pharmacists' opportunities to contribute to improved patient outcome.[5]

Thus, future changes are needed to update pharmacy education curriculum in Nigeria with a view to help facilitate effective patient-pharmacists communication in future.[5] The practice of pharmacy in Nigeria is still at its developmental stages. However, the professional roles of the pharmacists working in hospitals and community pharmacies are changing from focus on mixing, dispensing and sales of medications to those roles which are clinical in nature in which the pharmacist assists the patient and the public to get the best possible results from medicine use through patient education, physician consultation and patient therapy management and monitoring.[1]

Pharmacists are in a unique position to help patients use their medications safely and effectively. The profession of pharmacy has been working diligently to change its image from medication dispensing to patient-centered care. The provision of pharmaceutical care relies heavily on patient-pharmacist communication as a means to facilitate optimal therapeutic outcomes for the patients. Therefore pharmacists' ability to communicate with patients is of paramount importance and may have a profound impact on patient medication use.[6]

It has been reported that patient education about medication is essential component of the practice of pharmaceutical care.[7,8] The United States Pharmacopoeia (USP) defines medication counseling as an interactive approach that exists between the patient and the pharmacist. The interaction takes into account the patient's special needs, beliefs and perception about medication use.[8,9] When we take the pharmacists into consideration, they are well positioned to identifying patients with poor health literacy or non-adherence.

This study evaluated four contextual cues (patient age, gender, educational level and question asking behavior) in a tertiary hospital setting in North Central Nigeria which may be associated with the content of patient-pharmacist communication.

MATERIALS AND METHODS

Study Location

The study was carried out in a tertiary health institution in north central, Nigeria. The health institution has 55 pharmacists with 1-27 years post qualification experience. It had monthly outpatient attendance of about 2,000 patients. These out patients were attended to by at least 12 pharmacists at a particular point in time.

Patient and Data Collection

Sample size

All 55 pharmacists working in the hospital were sampled in this study, while 360 patients was the calculated sample size determined. were selected alternatively as they came to the pharmacy dispensary.

Sampling (Inclusion and exclusion criteria)

For this study, systematic sampling method was employed to randomly recruit eligible patients. All patients who presented to the pharmacy were eligible and patients who did not consent were excluded.

Ethical Approval

Prior to the study, approval was sought and obtained from the hospital research ethics committee. Patients' informed consent was also sought and obtained before they were included in the study. All pharmacists and patients included in the study verbally agreed after explaining to them the purpose of the study.

Research Procedure

In the study, patient observational check-list, pharmacist observational check-list and self-administered questionnaire were used. The check-lists and questionnaire were pre-tested and validated prior to the study. Check-lists were developed and validated by healthcare professionals (doctors and pharmacists). Check-lists were entirely in English language. In the case of non-English patients, a translator that understands English and the language was used to explain to the patient.

Using the patient observational check-list, patient age, gender, educational level, questions asked by patients, and approximate waiting time were recorded. Waiting time was taken from the time the patient came to the pharmacy for screening and billing to the time he/she returns to collect his/her medications minus the time he/she spent at the pay point. Information on age, gender and educational level was obtained from the patients as they came in.

The pharmacist observational check list was used to record the information given to the patient by the pharmacists and the dispensing time. The dispensing time was noted from the time the patient presented the receipt of payment for the medicines to the pharmacist to the time the patient left the pharmacist with his/her prescribed medicines.

The patient-pharmacist encounters observation was carried out within a time interval of 4 hours (11:00 am – 2:00 pm) daily on Mondays through Saturdays for a period of one month. Each patient encounter was observed once. Information given to the patients by the pharmacists was promptly recorded. The observer recorded information by listening to the conversation between the pharmacist and the patient on the check-list provided. Pharmacists and patients were not debriefed after recording the conversation to reduce bias.

To eliminate or reduce bias, though the pharmacist and the patients were aware that they were being observed, they were ignorant of the components of the interaction that were being observed and recorded.

Any information given to a patient after the patient has asked was recorded under question asked by patients and was not recorded under information given automatically by the pharmacists. Recording was done on the observational check list for the patients and for the pharmacists. Patients' age and gender were also obtained through interviews and observation of the prescription sheet. Data for patients below 18 years were obtained from their relatives that accompanied them to the hospital by getting their consent.

Patient-question asking was determined by observing patient-pharmacist encounter and recording whether or not patient asked question on any of the following: availability of medicines, cost of medicines, health condition, intended use, how to administer, how to monitor for effectiveness, side effects, interactions and contraindications. Data collected were instantly recorded.

Self-administered, pre-tested questionnaire was served on 55 pharmacists. Questions on the questionnaire comprised: pharmacist socio-demographic data, highest pharmacy qualification obtained, years of experience, awareness of professional responsibilities, attitudes and behavior towards patient counseling, and the use of drug information sources during patient counseling. The questionnaire had other questions centered on actual and perceived barriers to effective patient-pharmacist communication, training on and exposure to communication with patient during professional training and interest and motivation to communicate effectively with patients.

Data analysis

Data were analyzed using Microsoft Excel 2010. Proportions for variables were expressed in percentages.

RESULTS

Pharmacist Related Factors

A total of 41 pharmacists responded to the questionnaire, comprising of 26 (63.4%) males and 15 (36.6%) females. Out of the 41 that responded, 7(17.1%) were within the age range of 30-39 years, 28(68.2%) were within the age range of 40-49, while 6(14.6%) were 50 years and above. The post qualification experience shows that 13 (31.7%) have 5-9 years post qualification experience, 22(53.7%) were of 10-14 years post qualification experience. A total of 3(7.3%) have 15-19 years post qualification experience and 3(7.3%) have above 20 years post qualification experience.

Assessments of Clinical Training and Exposure Pharmacists had during their Professional Training: Out of the 41 that responded, 8(19.5%) said the training they had was very adequate. Twenty six (26) (63.4%) said the training was only adequate, 5(12.2%) said the training was adequate, whereas 2(4.9%) said the training was grossly inadequate.

Frequency of Communicating with Patients as stated by Pharmacists:

Responding to the frequency of communicating with patients as stated by pharmacists has shown that 11(26.8%) communicate very frequently (> 80%), while 26 (63.4%) said they communicate frequently (61-80%), and 4 (9.8%) said they communicate most times (50-60%).

Information Pharmacists Volunteered to Patients during Communication:

Most pharmacists provided information on route of administration (83%), cost of medicines (78.1%), side effects (73.2%), duration of treatment and medicine availability (68.3% respectively. The numbers depicted are not mutually exclusive, because some pharmacists who volunteered providing information on availability of medicines also volunteered providing information on cost of medicines. Table 1 gives a summary of information pharmacists volunteered to patients during communication.

Table 1: Information pharmacists volunteered providing to patients during communication

S/No	Information	Number of Pharmacists (%)
1	Health condition	16 (39)
2	Availability of medicines	28 (68.3)
3	Cost of medicines	32 (78.1)
4	Duration of treatment	28 (68.3)
5	Side effects	30 (73.2)
6	How to monitor for effectiveness	8 (19.5)
7	Intended use of medicines	18 (44)
8	Route of administration	34 (83)
9	Frequency of administration	16 (39)
10	Storage	2 (4.9)
11	Drug interactions	2 (4.9)
12	Life style modifications	2 (4.9)

Average time pharmacists volunteered communicating with their patients:

Nineteen (19) pharmacists said they spend 5 minutes or less, 17 said they spend 6-10 minutes, while 5 said they spend 11-15 minutes.

Frequently asked Questions (by patients) from the Perspective of Pharmacists:

All pharmacists agreed that patients seek information that will help them adhere to their medications. Table 2 shows the most frequently asked questions (by patients) from the perspective of pharmacists.

Table 2: Frequently asked questions (by patients) from the perspective of pharmacists

S/No	Information	Number of Pharmacists (%)
1	Availability	24 (58.5)
2	Cost	36 (87.8)
3	How to administer medicine	26 (63.4)
4	Intended use of medicine	18 (44)
5	Duration of use of medicine	20 (49)
6	Side effects	14 (34.2)
7	Food-drug interaction	2 (4.9)
8	Health education	2 (4.9)
9	Efficacy	2 (4.9)
10	Quality of medicines	2 (4.9)

Factors in the Opinion of Pharmacists that Affect Effective Communication

Most of the pharmacists reported the following factors as affecting their ability to communicate with patients effectively: 19 (46.3%) reported work pressure, 16 (39%) said lack of privacy, 9 (22%) reported language barrier and lack of time, 8 (19.5%) reported lack of training, while 5 (12.2%) said that lack of patient interest affect communication. The lack of determination and poor remuneration accounted for one (1) (2.4%) each.

Patient Related Factors

Socio-demographic characteristics of patients:

A total of 360 patients were observed. Males were 208 (58%), while females were 152 (42%). Table 3 summarizes the socio-demographic characteristics of patients.

Table 3: Socio-demographic characteristics of patients

Variable	Male (%)	Female (%)	Total (%)
Age (yrs)			
0-10	8 (3.8)	10 (6.6)	18 (5.0)
11-15	60 (28.9)	4 (2.6)	64 (17.8)
16-20	20 (9.6)	8 (5.2)	28 (7.9)
21-60	103 (49.5)	110 (72.4)	213 (59.0)
Above 60	17 (8.2)	20 (13.2)	37 (10.3)
Total	**208 (100)**	**152 (100)**	**360 (100)**
Educational status			
No school	24 (11.6)	40 (26.3)	64 (17.8)
Primary school	40 (19.2)	24 (15.8)	64 (17.8)
Secondary school	108 (51.9)	26 (17.1)	134 (37.2)
Graduates/ students of tertiary institution	36 (17.3)	62 (40.8)	98 (27.2)
Total	**208 (100)**	**152 (100)**	**360 (100)**

Information Provided by Pharmacists to Patients

During the period of observation, pharmacists were observed to have provided information to all presenting patients on information on availability (100%), cost (100%), route of administration (100%), dose (100%), and dosing frequency (100%). Only 12 patients (3.3%) received information on health condition, 12 (3.3%) on duration of use, 11(3.0%) on drug interactions and 8 (2.2%) on side effects.

Frequency of Questions asked by Patients in Relation to their Educational status:

Out of the 360 patients observed, 63 (17.5%) asked questions while the remaining patients 297 (82.5%) did not ask question. The proportion of those that did not go to school and asked questions is not statistically greater than the proportion of those that went to school and asked questions (α 0.05, P 0.83).

Questions Asked by Patients in Relation to their Gender:

Out of the 63 patients that asked questions, 31 (49.2%) were males, while 32 (50.8%) were females. The proportion of males that asked questions is not statistically greater than the proportion of females that asked questions (α 0.05, P 0.93).

Questions Asked by Patients in Relation to their Age:

Out of the 63 that asked questions, 12 (3.3%) were in the age range of 0-10 years, 13 (3.6%) were in the age range of 11-15 years, 10 (2.8%) were in the age range of 16-20 years, 16 (4.4%) were in the age range of 21-60, while 12 (3.3%) were above 60 years.

DISCUSSION

It is no longer new that the role of the hospital pharmacist is gradually shifting from the traditional medication dispensing to more or less patient education and counseling.

By observation, it seems the training they had was inadequate. This explains why some pertinent information was not consistently given to the patients despite the number of pharmacists and separate cubicles for the pharmacist provided by the hospital authority. Moreover, the average time spent by the pharmacist for the encounter was very short (2.9, range 1-8 minutes), varying with what the pharmacists said they spend as regards time (0-10 minutes) and this is grossly inadequate and insufficient for any meaningful information to be shared between the pharmacists and the patients.

Pharmacists who participated in this study provide information on direction for use and administrative elements to all the patients. This is supported by earlier studies reporting that pharmacists provide information on direction for use and administrative elements to all patients.1,4 However, the results are contrary to what the pharmacists volunteered they communicate to their patients (that they provide other necessary information almost equally as the administrative and direction for use information).

The provision of information on health condition, purpose of medication, interactions, and side effects was lower to that reported in another study.10

More so, during the period of observation, each pharmacist used a cubicle with chairs, a table and a shelf for drugs and official reference books.

In the health institution, drugs prescribed were dispensed in the hospital pharmacy. Where the drugs prescribed were not available in the hospital, patients were often advised by the pharmacists to purchase their drugs from private pharmacies outside.11

It has been found out that independent variable such as demographic characteristics and patient question asking have varied effects on the content of information provided to the patients.12 For example, when a medication was dispensed, the pharmacists were more likely to provide information on health condition, duration of use, interactions, and side effects to more males than females.12 This study also indicated that patient asking behavior served as an important cue to the pharmacists to provide information to the patient on interactions, side effects, health condition, how to monitor for effectiveness, and intended use of medication. This is also in agreement with earlier studies.12,13

Some studies have indicated that sex and educational status were not major predictors of patients asking for information about their health condition and medications. Erah, Olumide and Okhamafe also reported that patients may also rate some services and information provided by pharmacists as non-beneficial and poor.5 While it cannot be disputed that every pharmacist dispensing drug to patients must provide all appropriate information to the patients that will enhance their adherence and ensure attainment of goals of therapy, it does appear that patients may need to be educated to ask pharmacists questions about their medications.

CONCLUSION

Our study evaluate four contextual cues (patient age, gender, educational level and question asking behavior) in a tertiary hospital setting in North Central Nigeria which may be associated with the content of patient-pharmacist communication.

The study revealed that the proportion of patient that did not go to school and asked questions is not statistically greater than the proportion of those that went to school and asked questions. Also proportion of males that asked questions is not statistically greater than the proportion of females that asked questions. Patient age according to our findings has not contributed immensely in the content of patient-pharmacist communication.

Our study found out that pharmacists in that health institution generally provide information on availability, prices and direction for use of drugs. They infrequently provided information on continuity of therapy, contraindication, interactions, monitoring, side effects, health condition and intended use of medications that could enhance adherence to prescribed medications.

Finally, there is the need for all

schools and faculties of pharmacy, in concert with the Pharmacists Council of Nigeria (PCN), to review pharmacy curriculum to include adequate clinical training and communication skills so as to enable practitioner communicate pertinent clinical information to patients effectively.

Limitations of the study

The study sampling method may have predisposed the study to observation bias as work schedules are cyclical within the hospital.

Conflict of Interest

The researchers declare no conflict of interest

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