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Original Article
Patients' Satisfaction with Outpatient Pharmacy Services at the University Teaching Hospital and Ndola Central Hospital in Zambia

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Abstract
Background: Hospital pharmacy services offered at tertiary public hospitals in Zambia have yet to be evaluated from the perspective of the patients they serve.**Main Objective:** To determine patients' satisfaction with outpatient pharmacy services provided at University Teaching Hospital (UTH) and Ndola Central Hospital (NCH) in Zambia.**Design:** Cross-sectional descriptive study**Setting:** University Teaching Hospital and Ndola Central Hospital**Participants:** Randomly selected patients (N=150) (38% male, 62% female) that were accessing outpatient pharmacy services at both the UTH and NCH.**Methodology:** A semi-structured interviewer-administered questionnaire consisting closed and open ended questions was used to collect data. Descriptive statistical methods were used to analyze quantitative variables. Open-ended questions were grouped and thematically analyzed. Findings were presented in tables and charts.**Results:** Only 33% of the patients were satisfied with the pharmacy services whereas majority (61%) were slightly satisfied and 6% of the patients showing dissatisfaction. Comparatively, there was no significant difference in patient's rating of satisfaction with pharmacy services at the two hospitals ($p>0.05$). Obtaining prescribed drugs, adequacy of medication counselling, patients' age and gender were significantly associated ($p<0.05$) with patients' satisfaction with pharmacy services at the two hospitals. Non-availability and shortages of most prescribed medicines, lack of privacy and empathy when receiving medication information from the pharmacy personnel at the dispensary, and long waiting time were contributors to patients' dissatisfaction with the pharmacy services at the two hospitals.**Conclusions:** Majority of patients were only slightly satisfied with outpatient pharmacy services they accessed at UTH and NCH. There remains great need for hospital administrators and pharmacy personnel at the two highest public hospitals to further improve the pharmacy services by addressing the attendant service gaps identified so as to meet the expectations of patients they serve.**Keywords:** Patient satisfaction, pharmacy services, hospital pharmacy, Zambia.

1. INTRODUCTION

Globally, pharmacy services are evolving from product-focused care to patient-focused provision of pharmaceutical care [1, 2]. By definition, pharmaceutical care is responsible provision of drug therapy for the purpose of achieving definite

outcomes that improve a patient's quality of life [3]. The concept of pharmaceutical care has emerged as the philosophy of practice for pharmacists and it exists for the sole benefit of maximizing quality of patient care. Afolabi and colleagues [4] described patient satisfaction as a multidimensional construct

that reflects the type and quality of service provided by healthcare providers, how well it is delivered, and the extent to which the expectations and needs of patients are met. Patient satisfaction is therefore the sum of the patient's perception and expectations about the pharmacy services provided to them, and if the perceived expectations are met, the patient will be satisfied [5].

Quantitatively, patient satisfaction is a measurement designated to obtain reports or rating from patients about the services received from a hospital or health care provider [6]. A growing body of evidence [1, 7] has highlighted how patient satisfaction has increasingly been used as a tool to measure the quality of healthcare services offered by health institutions. In developed countries, patient satisfaction has long been increasingly used as a tool to measure the quality of health services offered by health institutions [8, 9]. Whereas some previous research works had primarily focused on measuring populations' satisfaction with the overall health care system in a country [10], other scholars have dwelt focus on patient satisfaction with the quality and type of healthcare services provided [11, 12]. Currently, there is a drive towards using patient satisfaction levels to not only reflect whether or not a given health service is meeting the expectations of patients it serves and is consistent with their values but to also identify key areas of quality improvement in healthcare service delivery.

In Zambia, there has been growing concern over the quality of healthcare services offered at public hospitals. The World Health Organization (WHO) [13] reported that the quality of healthcare in Zambia is partly compromised by the shortages of appropriate facilities, shortages and inequitable distribution of health workers, difficulties in ensuring steady adequate supplies of drugs and medical supplies. Left unchecked, a growing proportion of the public risk losing confidence in public hospital services leading to low utilization of public health facilities and increasing outflow of patients to other unconventional healthcare systems [14].

The University Teaching Hospital (UTH) and Ndola Central Hospital (NCH) are two of Zambia's highest referral hospitals providing specialized healthcare services. Patients referred from both primary and secondary healthcare facilities throughout Zambia access healthcare services at UTH and NCH to benefit from the highly skilled health professionals at the two hospitals. Pharmacy services offered at these public hospitals have yet to be evaluated from the perspective of the patients they serve. The main aim of this study was to determine patients' satisfaction with outpatient pharmacy services provided at UTH and NCH in Zambia. The attendant specific objectives were: to determine the levels of patients' satisfaction with outpatient pharmacy services; to determine the service factors linked to patients' level of satisfaction; to determine patients' perceptions of pharmacy personnel's attitude to service and adequacy of medication counselling provided; and to identify service gaps affecting patients' satisfaction with outpatient pharmacy services at the two hospitals.

2. METHODOLOGY

This was a quantitative descriptive cross-sectional study conducted at UTH located in Lusaka province and NCH located in Ndola on the Copperbelt province of Zambia. The study sites were selected by virtue of their being Zambia's highest specialized referral hospitals with well-established hospital pharmacy services offered by hospital pharmacists. Field data collection was conducted in March 2015. Since the intention of the study was to undertake a quick survey to gain a snapshot view of the current state of patients' satisfaction with out-patient hospital pharmacy services at the two facilities, a non-probability convenient sample of 150 patients was chosen to reflect the limit of our budget and time allocated to the study. The sample was distributed as follows: 75 patients at UTH and 75 patients at NCH, correspondingly. Randomly selected patients aged ≥ 18 years old that were accessing outpatient pharmacy services at the two sites were enrolled. Exit interviews were conducted after obtaining informed consent.

A semi-structured interviewer-administered questionnaire (adapted from the 'Pharmacy Encounter Survey tool' by Briesacher & Corey [15]) consisting closed and open ended questions was used to collect data. Statistical Package for Social Sciences version 20 (by IBM Inc.) was used to analyze the data. Descriptive statistical methods including Pearson's chi-square test was used determine associations between the dependent variable (patient satisfaction) and independent variables (patient demographics, hospital facility, medicine availability, waiting time, adequacy of medication counselling, and attitude of pharmacy personnel). A p-value < 0.05 was used for statistical inference at 95% confidence interval. Open-ended questions were grouped and analyzed thematically. Findings were presented in tables and charts.

Written permission to conduct the study at the two hospitals was obtained from hospital management. All information collected was confidentially maintained. Ethical approval was granted by the University of Zambia, School of Medicine Research Ethics Committee (IRB00001131 of IORG0000774).

3. RESULTS

Demographic Characteristics of patients

A total of 150 randomly selected patients (62% female and 38% male) participated in the study among which 58% were aged 21 – 35 years old, 35% were aged > 35 years old, and 7% were aged 18 – 21 years old respectively. In terms of educational attainment level, 49% had attained tertiary education, 30% had attained secondary school (grade 8 to 12) level whereas 21% had attained primary school (grade 1 to 7) level education.

Services accessed at the outpatient pharmacy department

Majority (80%) of the patients in the sample had more than one visit to the respective outpatient pharmacy department and the purpose of the visit was to collect medications (95%). Out of the 150 patients, 73% spent < 15 minutes waiting time to access pharmacy services whereas 18% spent about 15 – 20 minutes and 9% spend > 30 minutes waiting time at the outpatient pharmacy department, respectively (Table 1).

Table 1: Services accessed at the outpatient pharmacy department

Variable	Frequency	Proportion
Number of visits		
-First Visit	30	20%
- More than one visit	120	80%
Purpose of visit		
-Collect medicine	143	95.3%
-Medicine information	6	4%
-Other business	1	0.7%
Waiting time		
<15 minutes	109	73%
15-30 minutes	27	18%
>30 minutes	14	9%

Patients' satisfaction with outpatient pharmacy services

Of the 150 patients in the sample that accessed outpatient pharmacy services from the main pharmacy at the two facilities during the study period, 33% were satisfied with the outpatient pharmacy services offered whereas majority (61%) were slightly satisfied. Only 6% of the patients indicated they were not satisfied with the pharmacy services (Table 2).

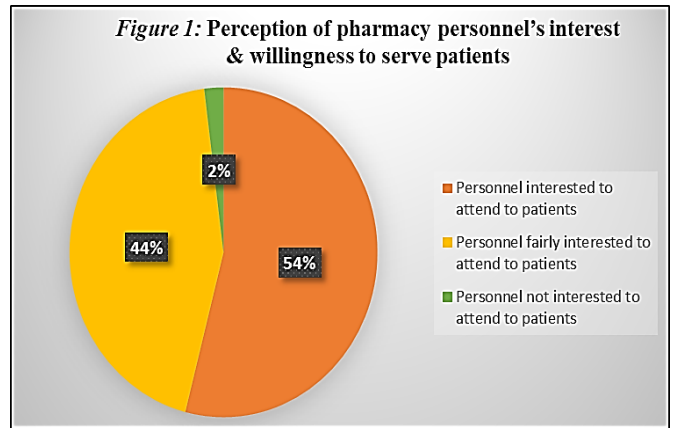
Table 2: Rating of satisfaction with pharmacy services

Variable	Frequency	Proportion
Overall rating of satisfaction with outpatient pharmacy services		
- Satisfied	49	32.7%
- Slightly satisfied	92	61.3%
- Not satisfied	1	6%

Comparatively, rating of patient satisfaction with outpatient pharmacy services at the two tertiary hospitals was not significant different (that is, 92% out of the 75 patients interviewed at UTH were satisfied versus 96% of the 75 patients at NCH were satisfied with the pharmacy services, $p>0.05$).

Patients' perceptions of pharmacy personnel's attitude to service

Over 50% of patients in the sample perceived pharmacy personnel at the two hospitals to be interested and willing to serve patients (Figure 1). A good number (44%) perceived pharmacy personnel to be fairly interested and willing to serve patients.



Patients' perceptions on adequacy of medication counselling provided by pharmacy personnel

Majority of the patients in the study felt they were well counseled on medication administration by pharmacy personnel at the two hospitals (Figure 2). There was a significant association between patient-satisfaction with perception of medication counselling service ($p = 0.0001$).

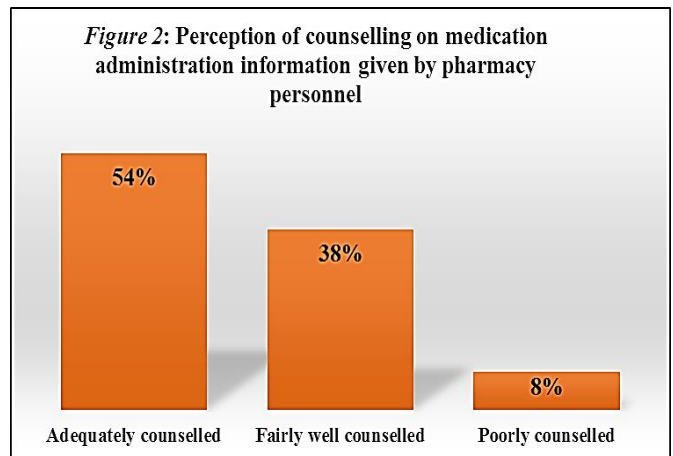


Table 3: Analysis of association between variables

Dependent Variable	Independent Variable	Chi-square Value
Patient Satisfaction	- Gender	35.9
	- Age	12.2
	- Educational attainment level	10.5
	- Number of visits to outpatient pharmacy	0.47
	- Hospital facility	1.06
	- Purpose of pharmacy visit	1.05
	- Waiting time	5.79
	- Prescribed drugs obtained	9.14
	- Perception of pharmacy personnel's willingness & interest to serve patients	7.88
	- Perception of medication administration counselling	19.3
	- Privacy when interacting with pharmacy personnel	0.91

Service gaps affecting patient satisfaction with outpatient pharmacy services

Patients cited the persistent non-availability or shortages of most medicines at the pharmacy (n = 93), lack of privacy and empathy when receiving medication information and consultations with the pharmacy personnel at the dispensary (n = 95), and long waiting time (n = 41) as leading factors affecting their satisfaction with the pharmacy services at the two hospitals.

4. DISCUSSION

This study aimed to determine patients' satisfaction with outpatient hospital pharmacy services offered at two of Zambia's highest tertiary level public hospitals. Primary health care services exist for the patient to access quality, safe and cost-effective health care. Health care is a service that should meet the expectations of the patients. The importance of patient satisfaction with hospital pharmacy service delivery cannot be understated. As earlier noted by Aharony & Strasser [16], a satisfied patient with the hospital pharmacy services will result in better patient communication which will ensure better therapeutic outcomes later on. Overall satisfaction with health care services is also positively correlated with adherence to recommendations [17]. This study found that majority of the patients in the sample were just slightly satisfied with hospital pharmacy services. This implied that pharmacy services being offered at UTH and NCH had aspects that were still deficient in meeting the patients' optimum requirements.

Factors influencing patients' satisfaction with hospital pharmacy services

Age and gender were found to be associated with overall patients' satisfaction with hospital pharmacy services. This finding was consistent with earlier findings by Alturki & Khan [18]. In this study, majority of patients spent less than 15 minutes waiting time at the pharmacy and despite there being no strong association with patient satisfaction at UTH and NCH, evidence elsewhere by Anderson and colleagues [19] found that patients who spent 10 minutes or less with the dispenser at the pharmacy were generally satisfied. Clearly, excessive and prolonged patient waiting time undermines pharmacy efficiency. Such delay leads to patient dissatisfaction which may result in loss of patronage and also poor patient compliance with pharmacy visits. One of the reasons for long waiting time for patients at the pharmacy was the overwhelmingly large number of patients visiting the main pharmacy dispensary to collect their medicines after attending their outpatient clinics at the hospital or following their discharge from the admission wards. In this study, majority of patients' visits to the pharmacy were for purposes of collecting their prescribed medicines. Patients receiving their prescribed medicines was associated with satisfaction. Patients that indicated having received all their prescribed medicines were satisfied with the pharmacy services. However, persistent shortage of medicines was cited by many patients in this study as a factor affecting satisfaction with pharmacy services. Key areas suggested by patients were that the hospital pharmacy should be well stocked with the most frequently used drugs in adequate amounts, especially for patients with chronic

conditions.

Pharmacy personnel and their service attributes

One of the predictors of patient satisfaction with health services is the attitude of health workers. In this study, the attitude of pharmacy personnel was generally rated as being positive. Majority of the participants found the pharmacy personnel to be interested and willing to attend to patients. This service attribute has potential to greatly influence patient satisfaction and should be cultivated. Similarly, patient counselling services were significantly associated with patient satisfaction. Elsewhere, findings by Marquez-Peiro & Perez-Peiro [20] reported that pharmacy personnel unfriendly attitude contributed to patients being unsatisfied with the dispensing process. Erah & Eboka [21] in their study conducted in Benin found out that patients rated the information given by the pharmacist as fair and that the pharmacists involved in patient management only offered basic pharmaceutical services that mainly concentrated on simply supplying the prescribed medicine whereas other pharmaceutical care services were only provided when the pharmacist was prompted by patients' requests. In this study, majority of patients also felt they did not have privacy when interacting with the pharmacy personnel at the dispensary. Lack of privacy can contribute to patients being unsatisfied with pharmacy services [22]. When providing services to the patient, privacy is necessary as it makes the patient feel comfortable to ask questions, interact effectively with the pharmacist, and understand easily the information given by pharmacist.

Areas of improvement

In terms of areas to target improvement of pharmacy services, key areas suggested by patients included the need to have enough pharmacy personnel available to serve patients. Arguably, this suggestion could have born from the evidently high patient to pharmacist ratios prevailing at the two public hospitals. This calls for the Ministry of Health to employ more pharmacy personnel in order to significantly reduce the patient to pharmacist ratio and improve service delivery. Patients also suggested that pharmacy personnel should adopt an empathetic and friendlier attitude towards patients, employ good communication skills, and be approachable to all patients they serve. Importantly, some patients called for consultation rooms to be provided where patients can freely ask questions and interact with the pharmacist. Clearly, patients desire health services that are responsive to their needs and expectations. Importantly, patients desire health workers to be attentive and understanding towards them and mentor support towards quality health care.

Limitations of the study

It was worth the mention that despite this study having been undertaken at the two highest referral public hospitals in Zambia, the findings may not adequately generalize the entire pharmacy services all public hospitals in Zambia. Moreover, the small sample used was intended to showcase the general state of pharmacy services at the two hospitals and may not adequately represent the perceptions of the entire population of patients. The cross-sectional study design may fall short of

detailing conclusive evidence of causation. Therefore, there may be need to conduct longitudinal randomized control trials to elucidate conclusive evidence of causation of patient satisfaction with pharmacy services. An in-depth qualitative design can also be considered for future study to gain better understanding of associated factors linked to patient satisfaction with pharmacy services.

5. CONCLUSION

Majority of patients were only slightly satisfied with outpatient hospital pharmacy services accessed at UTH and NCH. Despite, patients' perceptions of pharmacy personnel's attitude to service, including adequacy of counselling on medication administration being generally positive, there remains need for hospital administrators and pharmacy personnel at the two highest public hospitals to further improve the pharmacy services by addressing the attendant service gaps identified so as to meet the expectations of patients they serve. Aspects such as persistent shortages and stock-outs of most prescribed medicines, long waiting time and lack of privacy during medication counselling or consulting with the pharmacy personnel at the dispensary were highlighted as areas of improvement of hospital pharmacy service delivery.

CONFLICT OF INTEREST:

The authors declare no conflict of interest associated with this work.

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