



Research

## Care-Recipient Perspectives on the Responsiveness of Orthopaedic Surgical Services in a Tertiary Center in Nigeria

<sup>1</sup>Diamond TE, <sup>2</sup>Ogaji DS

<sup>1</sup>Department of Surgery, Faculty of Clinical Sciences, University of Port Harcourt, Port Harcourt, Nigeria

<sup>2</sup>Africa Centre of Excellence in Public Health and Toxicology Research (ACE PUTOR), University of Port Harcourt, Choba, Nigeria

**Corresponding author: Diamond Tamunokuro Ezekiel**, Department of Surgery, Faculty of Clinical Sciences, University of Port Harcourt, Port Harcourt, Nigeria; [teddydiamond@gmail.com](mailto:teddydiamond@gmail.com); +2348037372248

Article history: Received 15 August 2023, Reviewed 5 September 2023, Accepted for publication 5 September 2023

This is an open access journal and articles are distributed under the terms of the Creative Commons Attribution License (Attribution, Non-Commercial, Share Alike” 4.0) - (CC BY-NC-SA 4.0) that allows others to share the work with an acknowledgement of the work's authorship and initial publication in this journal.

### How to cite this article:

Diamond TE, Ogaji DS; Care-Recipient Perspectives on the Responsiveness of Orthopaedic Surgical Services in a Tertiary Center in Nigeria. The Nigerian Health Journal 2023; 23(3): 852 – 861.

### Abstract

**Background:** Responsiveness optimises the system-based approach to meeting legitimate demands by healthcare recipients. This study assessed the responsiveness of orthopaedic services at the University of Port Harcourt Teaching Hospital (UPTH) from the perspectives of the care recipients.

**Methods:** Descriptive cross-sectional study among 442 consecutively recruited recipients of orthopaedic services at UPTH from March to June 2020. Close-ended questionnaire with responsiveness conceptualised by five constructs: dignity, autonomy, confidentiality, quality of basic amenities and choice of care provider, each measured along 4-point response scale. The internal consistency reliability of the responsiveness scale was determined by the Cronbach's alpha coefficient. Descriptive (frequency, percentages, bar charts) and inferential (ordinal logistic regression) statistics were conducted and p-values  $\leq 0.05$  were considered statistically significant.

**Results:** Response rate was 97.3% and the Cronbach's alpha coefficient for the responsiveness scale was 0.83. Participants' mean age was  $38.5 \pm 14.8$  years with more being males (55.8%), privately employed (34.9%) and completed secondary education (82.5%). Proportion of respondents who gave excellent ratings across responsiveness domains were dignity (32.8%), autonomy (34.2%), confidentiality (26.3%), amenities (25.8%) and no excellent rating for choice of provider. Marital, employment and visit status were the most consistent factors associated with feedback on autonomy, choice of providers, confidentiality domains.

**Conclusion:** More orthopaedic patients were pleased with the level of autonomy and dignity than choice of providers and quality of basic amenities. There is the need for enhanced responsiveness of orthopedic services to meeting the unique needs of patients and achieving improved quality of care and patient outcomes.

**Keywords:** Responsiveness, orthopaedic services, dignity, confidentiality, autonomy, choice of providers, University of Port Harcourt Teaching Hospital, UPTH, Nigeria

## Introduction

Responsiveness depicts a system-based approach to identifying and solving the legitimate demands placed on the health system which could vary with the peculiarities of different sub-populations receiving health services within the system.<sup>1</sup> Being one of three goals of the health system, responsiveness captures people's actual experiences of their encounter with the health system and as such, relates to the extent their initial expectations are met by the system.<sup>2</sup>

Health System Responsiveness (HSR) entails the provision of services that meet the patients' preferences and are provided to satisfy their legitimate expectations.<sup>2</sup> Health services are expected to be delivered without discrimination and meet the stated or implied needs of the recipients of care. In this way, a responsive health service will ensure equity in the distribution of available services and resources and will consider the different needs of different sub-populations within the system.<sup>2</sup>

There is still a lack of consensus on ideal approach for evaluating health services in low- and middle-income countries. This is despite advancements in the development of scientific underpinnings and approaches for investigating under-researched objectives of the health systems like the responsiveness of the system to the needs and expectations of the population.<sup>3</sup> Earlier inertia might have resulted from lack of knowledge on the critical role of enhancing responsiveness in complex and multidimensional quest for quality. Assessing the level of responsiveness of health service through the eye of patients is a useful means of identifying weaknesses in the health system in low-and middle-income countries where objective and structured mechanisms for effective monitoring of system performance are lacking.<sup>4</sup>

Orthopaedic care is an important outpatient and inpatient service delivered in tertiary health facilities for the management of trauma with fractures, bone and joint deformities.<sup>5</sup> There is an inundation of innovations into orthopaedic practice in low- and middle-income countries following the drive for sub & super-specialisations, improved surgical tools, availability of social protective mechanisms as well as the better diagnostic methods. Despite the enhanced outcomes from these exciting innovations and sophistication in health care, the patients' experiences remain critical in the evolving system. The level of responsiveness of the system typifies the extent their legitimate needs are addressed for an enhanced health outcome.<sup>2,6</sup>

Common measurable domains of responsiveness include prompt attention, dignity, communication, autonomy, choice of provider, quality of facilities,

confidentiality, and access to family support.<sup>1</sup> Most patients relate more with these domains of responsiveness in their assessment of the quality of health services received from health facilities than the way and manner personal health services involving disease diagnosis, treatment and prognosis are provided. Responsiveness therefore offers the patient an experience-based platform for the assessment of quality. Indeed, improving the level of responsiveness will directly improve the quality of care, improve equitable distribution, and increase patronage of such services. A responsiveness health system therefore is desirable to both users, practitioners, and health administrators.<sup>7</sup>

Since the level of responsiveness of the health system can be influenced by system and individual factors,<sup>2</sup> orthopedic services like other clinical services need to be responsive to the unique and changing needs of care recipients during their encounter with the service. Furthermore, some orthopedic patients may not be ambulant. In addition to having unique financial, social, religious, occupational needs, they may spend longer time as inpatients to allow for adequate recovery. A responsive system will ensure the needs of patients who receive orthopedic services within the health facility are met.

It is not uncommon for patients with fractures and other orthopaedic conditions in the developing countries like Nigeria, to visit the traditional bone setters before recourse to orthodox orthopaedic practice when complications occur.<sup>8-10</sup> This illness-seeking behaviour may be borne out of the trust these patients have in the traditional bone setters and a measure for reciprocating their responsiveness amidst their financial and social constraints.<sup>11-13</sup> These traditional bone setters are known to accommodate close family members who are present during treatment to give support to patients, communicate appropriately with the patients, provide prompt services and permit flexible and alternative payment plans.<sup>10-12</sup>

The care recipients can provide valid assessment of the level of responsiveness for health services within a health facility. Their unique experiences during encounters with caregivers provide valuable insights into the level of responsiveness and the quality of care provided by a health facility. This is particularly so for orthopaedic patients who might have harboured symptoms for long period of time and have made repeated visits to the care facility.<sup>5</sup> Patients with acute or chronic orthopaedic problems may require prolonged interaction with the locally available health services either as outpatients or inpatients. The patient's journey which often commence either as ambulatory outpatient clinic visitors or via the emergency gateway to the wards and/or theatre for operative interventions

and then back to the clinic following discharge for follow-up. Responsiveness as a function of the patient's journey and experiences through the health facility are best described by those with such broad encounter with the facility. Thus, assessing the level and factors associated with responsiveness by orthopaedic patients will provide a bird's eye view of the journey of acute and chronically ill patients through the teaching hospital.

## Method

The study was conducted at the out-patient unit and the three orthopaedic wards of the University of Port Harcourt Teaching Hospital (UPTH). The hospital is in Rivers State along East-West Road with coordinates of 4.45305800N and 6.5504300E. UPTH serves as a tertiary referral center and receives referrals from neighboring states such as Bayelsa, Abia, Imo, Akwa-Ibom, Delta, Cross River, and other states in Nigeria. The orthopaedic clinic with 5 consulting rooms running every Tuesdays, Wednesdays and Thursdays is 1 of the 55 specialist clinics in the hospital with an average patient load of 646 a month and 53 patients seen at each clinic day.<sup>14</sup> The orthopaedic department of the University of Port-Harcourt teaching hospital serves as a referral facility for most orthopaedic patients within the South-South and south-eastern regions of the country offering trauma care, joint/muscle/bone infection care, joint replacement surgeries, spine surgeries, as well as deformity correction surgeries. The department has three wards for adult males, females, and pediatric patients. There has been no previous study in the orthopaedic department and the entire hospital on responsiveness of clinical services. This study assessed the responsiveness of orthopaedic services at the University of Port Harcourt Teaching Hospital from the perspectives of the care recipients.

**Study Design:** This study was descriptive cross-sectional study conducted among recipients of orthopedics care at the University of Port Harcourt Teaching Hospital from March to June 2020 (four-month period).

**Study participants:** Study participants were attendees at the three orthopaedic clinics (arthroplasty, paediatric orthopaedic and spine clinics). These patients were referred from the Accident and Emergency, family medicine, and children emergency wards. Patients were either first time visitor or were on a repeat visit to the orthopaedic clinic.

**Sample size:** The sample size of 442 was calculated using the Cochran's formula<sup>15</sup> for cross-sectional studies  $n = (Z^2 \times PQ) / d^2$ . Where Z at 1.96, p is 53.8% based on the proportion of patients attending primary health care centres in the same area who provided good rating on the choice of providers in a previous study.<sup>4</sup> A 10% increase in the calculated sample size was done

to accommodate non-responders and inappropriately completed questionnaires.

**Sample methodology:** Adult patients who received orthopaedic services within the study period were consecutively recruited into the study if they met the eligibility criteria and gave consents.

**Study Instrument:** Study participants patients completed the closed-ended interview questionnaire adapted from the health systems responsiveness questionnaires used in the WHO multi-country studies<sup>1,2</sup> at exit points. The adapted questionnaire had five domains: dignity, autonomy, confidentiality, quality of basic amenities and choice of care provider. Questions in each domain were rated using a 4-points response scale: strongly agree, agree, disagree, and strongly disagree or always, usually, sometimes, and never. The overall ratings of each domain were along 4-point response options of excellent, good, fair and poor. Higher values on this ordinal scale indicated more positive ratings.

The study tool captured sections on patients' demographics, presenting orthopaedic complains and responsiveness across the following domains: Dignity (whether patients were treated with respect by doctors and other non-clinical, privacy during examination); Autonomy: (provision of information on treatment alternatives, patients' involvement in clinical decision making and consent before procedure); Confidentiality (privacy of information); Social support (access to support from friends and family when receiving care); Basic amenities (availability of clean environment, space, facilities); Choice of care provider: (patient's involvement on deciding the choice of care provider).<sup>1</sup>

Face and content validation of the scale was conducted using subject experts and patients to improve the appropriateness, comprehensibility, and the suitability of the contents for orthopaedic patients. The reliability of the responsiveness scale was determined by its internal consistency measured with the Cronbach's alpha coefficient.

**Data Analysis:** Descriptive (frequency, percentages, bar charts) and inferential (multivariate ordinal logistic regression). statistics were conducted using the Statistical Package for the Social Sciences (SPSS) version 23. The multivariate ordinal logistic regression model presented as  $\text{logit}(P(Y \leq j)) = \beta_{j0} + \beta_{j1}x_1 + \dots + \beta_{jpx}$ , was used to identify possible predictors of the domains of responsiveness as the rating was on an ordinal scale. The  $\beta$  estimates and 95% confidence interval were approximated to two decimal places while p-values were approximated to three decimal places while p-values  $\leq 0.05$  were considered statistically

significant and categorized as \*( $p < 0.05$ ), \*\*( $p < 0.01$ ) and \*\*\*( $p < 0.001$ ).

### Results

A total of 442 patients gave consent and were recruited into the study but only 430 patients gave complete responses to the questionnaires giving a response rate of 97.3%. The reliability of the responsiveness scale was determined by the internal consistency measured with the Cronbach's alpha coefficient was found to be 0.830.

**Table 1:** Sociodemographic and clinical characteristics of patients

Variables	Categories	Freq	Percent
<b>Gender</b>	Male	240	55.8
	Female	190	44.2
<b>Occupation</b>	Unemployed	104	24.2
	Public Servant	58	13.5
	Private employed	150	34.9
	Self employed	118	27.4
<b>Educational Status</b>	None	12	2.8
	Primary	63	14.7
	Secondary	194	45.1
	Tertiary	161	37.4
<b>Marital status</b>	Not married	136	31.6
	Married	260	60.5
	Divorced/Widowed	34	7.9
<b>Religion</b>	Christianity	410	95.3
	Islam	16	3.7
	African Traditional Religion	4	.9
	<b>Age – mean (SD, min - max)</b>		38.5 years (14.8, 18 – 89)

**Table 2:** Visit and clinical characteristics

Variables	Categories	Freq	Percent
<b>Visit status</b>	First time	248	57.7
	Subsequent	182	42.3
<b>Primary Complain</b>	Bone fracture	122	28.4
	Bone infection	43	10.0
	Limb swelling	31	7.2
	Back pain	85	19.8
	Joint pain	112	26.0
	Spinal cord	37	8.6

Table 1 show the mean age of the study participants to be 38.5 years with a standard deviation of 14.8 years. There were more females (55.8%), privately employed (34.9%) and most respondents had completed at least secondary education (82.5%). From Table 2, more of the study participants were first-time visitors to the institution (57.7%) and had bone fracture as their primary complain (28.4%). The rating of orthopaedic services along the domains of responsiveness presented in Table 3 shows a preponderant of poor rating

ascrivable to choice of providers (71.2%), cleanliness of the toilet (49.1%) and cleanliness of the health facility (39.8%). The highest proportion of excellent raters along items on the responsiveness scale were ascribed to dignity accorded patients by both non-clinical (46.5%) and clinical staff (40.9%) as well as respect for their privacy during procedures (41.9%).

Overall rating on the domains of responsiveness as shown in Figure 1 reveal proportion of respondents giving excellent ratings for the domains as dignity (32.8%), autonomy (34.2%), confidentiality (26.3%), amenities (25.8%) while none of the respondent gave excellent rating on choice of provider.

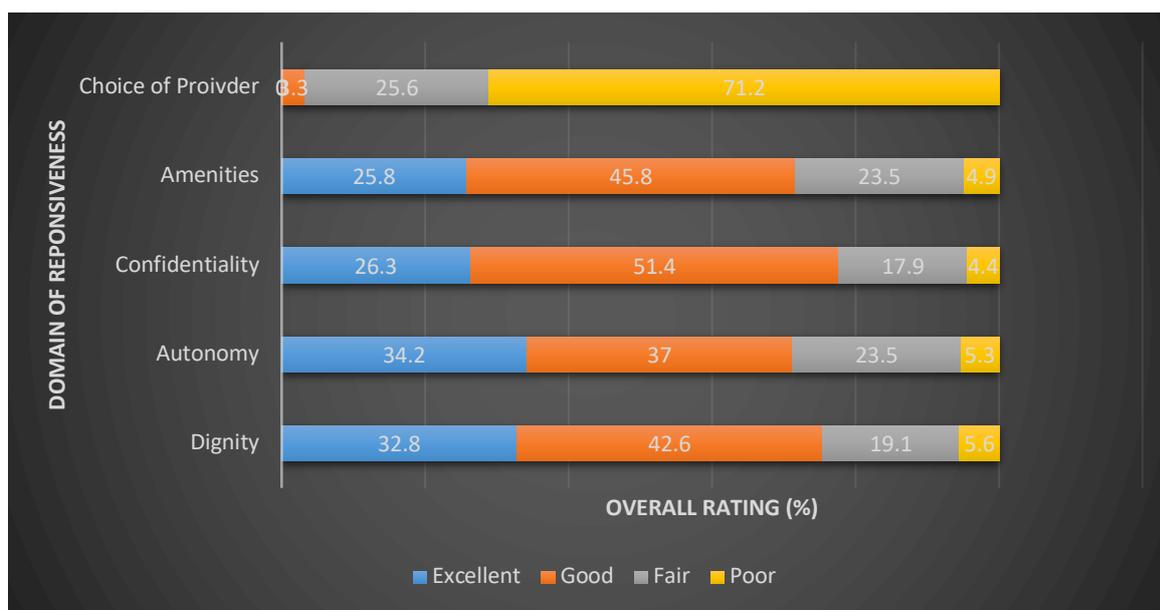
The predictors of the various domains of responsiveness are shown in Table 4 which reported the estimates and the 95% confidence intervals. Patients who were not working showed 0.75 (95%CI: 0.21, 1.29) points higher level of autonomy than those who are self-employed, and this difference was statistically significant ( $p < 0.01$ ). Significantly higher level of autonomy, quality of amenities and confidentiality were reported by those who are not married and those married when compared with those who were divorced. The favourable rating accorded responsiveness domains were observed among first time visitors compared to repeat visitors. Public servants gave significantly higher ratings on amenities ( $B = 0.76$ , 95%CI: 0.13, 1.40) and confidentiality ( $B = 0.67$ , 95%CI: 0.03, 1.32) compared with the self-employed but the converse was observed with choice of providers among public servants and private employed when compared to the self-employed respondents. While those with primary and secondary level of schooling gave significantly higher ratings on choice of providers when compared to those who had attained tertiary level of school, public servants and those in private employment gave significantly lower rating on choice of providers when compared against those that were self-employed.

### Discussion

This study evaluated over 430 completed responses from care recipients on the level of responsiveness of orthopaedic services in the University of Port Harcourt Teaching Hospital. Majority of the respondents being young, privately employed and were visiting the facility for the first time.

**Table 3:** Responsiveness of orthopaedic services

Responsiveness Domain	Criteria	Rating			
		Excellent %	Good %	Fair %	Poor %
Dignity	Dignity by Clinical staff	176(40.9)	163 (37.9)	52 (12.1)	39 (9.1)
	Dignity by Non-Clinical staff	200 (46.5)	143(33.3)	60(14.0)	27(6.3)
Autonomy	Respect for privacy during procedures	180(41.9)	171(39.8)	52(12.1)	27(6.3)
	Provision of information on treatment and alternatives	105(24.4)	143(33.3)	153(35.6)	29(6.7)
	Involvement in clinical decision making	135(31.4)	171(39.8)	97(22.6)	27(6.3)
Confidentiality	Consent before procedures	151(35.1)	142(33.0)	114(26.5)	23(5.3)
	Confidentiality of information	134(31.2)	184(42.8)	96(22.3)	16(3.7)
Quality of Basic Amenities	Respect for privacy	113(26.3)	221(51.4)	77(17.9)	19(4.4)
	Cleanliness of health facility	58(13.5)	104(24.2)	97(22.6)	171(39.8)
	Access to clean water	133(30.9)	189(44.0)	92(21.4)	16(3.7)
	Maintenance of building	144(33.5)	167(38.8)	104(24.2)	15(3.5)
	Adequacy of furniture	146(34.0)	153(35.6)	115(26.7)	16(3.7)
Choice of care provider	Cleanliness of toilets	68(15.8)	85(19.8)	66(15.3)	211(49.1)
	Choice of provider	3(0.7)	12(2.8)	109(25.3)	306(71.2)



**Figure 1:** Rating of overall responsiveness across domains



**Table 4:** Predictors of the domains of responsiveness – ordinal logistic regression

Variables	Categories	Domains of responsiveness				
		Dignity B (95%CI)	Autonomy B (95%CI)	Amenities B (95%CI)	Choice of providers B (95%CI)	Confidentiality B (95%CI)
Gender	Female	-0.17(0.054, 0.20)	-0.25(-0.61,0.12)	0.21(-0.16,0.59)	-0.56(-1.03,-0.11)*	-0.20(-0.58,0.18)
	Male	-	-	-	-	-
Occupation	Unemployed	-0.27(-0.80, 0.26)	0.75(0.21,1.29)**	0.26(-0.26,0.79)	0.55(-0.07,1.18)	-0.45(-0.98,0.08)
	Public Servant	0.42 (-0.19, 1.04)	0.15(-0.46,0.76)	0.76(0.13,1.40)*	-1.02(-1.93,-0.19)*	0.67(0.03,1.32)*
	Private employed	-0.41 (-0.88, 0.05)	0.07(-0.38,0.52)	0.18(-0.29,0.64)	-0.40(-0.98,0.18)	-0.64(-1.12,-0.18)**
	Self employed	-	-	-	-	-
Educational Status	None	0.46 (-0.59, 1.54)	-0.65(-1.72,0.43)	0.58(-0.46,1.65)	-20.31(-)	-0.59(-1.87,0.69)
	Primary	-0.36 (-0.95, 0.23)	0.30(-0.29,0.89)	0.37(-0.20,0.93)	0.78(0.08,1.46)*	0.91(0.35,1.49)**
	Secondary	-0.24 (-0.43, 0.39)	0.04(-0.36,0.44)	-0.37(-0.79,0.04)	1.14(0.61,1.69)***	0.28(-0.15,0.71)
	Tertiary	-	-	-	-	-
Marital status	Not married	0.44 (-0.45, 1.33)	1.14(0.21,2.07)*	1.64(0.72,2.55)***	0.25(-0.93,1.48)	1.78(0.85,2.71)***
	Married	0.24 (-0.51, 0.98)	1.10(0.31,1.90)**	1.11(0.34,1.88)**	0.50(-0.47,1.55)	0.78(0.01, 1.56)*
	Divorced/Widowed	-	-	-	-	-
Religion	Christianity	-1.34 (-3.50, 0.53)	-1.29(-3.43,0.55)	-1.67(-3.84,0.22)		-1.45(-3.75,0.57)
	Islam	0.19 (-2.24, 0.03)	-1.98(-4.31,0.11)	-2.90(-5.27,-0.78)**		-1.57(-4.04,0.67)
	ATR	-	-	-	-	-
Visit status	First timer	0.28 (-0.1, 0.66)	0.61(0.23,1.03)**	0.34(-0.05,0.73)	0.79(0.30,1.30)**	0.43(0.03,0.83)*
	Repeat	-	-	-	-	-
Age		-0.002 (-0.02, 0.014)	0.02(0.01,0.04)**	0.02(0.01,0.04)*	0.01(-0.01,0.03)	0.02(0.01,0.04)*

ATR – African Traditional Religion

The mean age of 38.5 years clearly reflects the predominantly youthful national demographic indices and similar to the findings in similar studies.<sup>5,16</sup> This may be the result of the adventurous nature of the younger population which make them prone to risk of accidents and other orthopaedic injuries. The observation of more female orthopaedic patients contrasts with an earlier reported study<sup>5</sup> and may reflect the relative exposure to risk among females or the differential illness-seeking behaviour among the two genders.<sup>17</sup>

More of the patients in this study were first-time visitors to the practice. This interesting pattern may have resulted from default in keeping follow-up appointments by orthopaedic patients who may have been dissatisfied with the service or impoverished by their long-term condition. An earlier report revealed that that first appointments are more likely to be kept than follow-up appointments.<sup>5</sup> Patients on first appointments may be more motivated and eager to see the specialist than patients given appointments for follow-up visits. This finding presents as a contrast to the reported pattern in Jammu India where more follow-up patients were seen in the orthopaedic clinic than first time cases.<sup>5</sup> The preponderance of new patients in this setting, suggests the need to investigate the factors that influence the retention of orthopaedic cases in orthodox health facilities. This is critical as orthopaedic care often require multiple follow up visits for optimal outcome. An important clue to the challenge of retention of orthopaedic patients is the reported unrelenting attraction of patients to traditional practices provided by the local bone setters. Indeed, a substantial number of patients with orthopaedic complaints seek care from traditional bone setters in this setting either before or after initial contact with orthodox care because of cost, ease of access and morbid fear for operative interventions.<sup>8-10,19</sup> The higher proportion of new patients in the study may also have affected the ratings on providers as new patients often have a tendency to give positive or neutral opinion about the level of responsiveness compared to old patients who are more familiar with the care environment and the health workforce.

The interpersonal relationship between a patient and the physician is expected to pose great influence on the patient's rating of the responsiveness to services. In a pooled online rating of 11,527 encounters with orthopaedic surgeons, the average overall rating was high at 83.7 on a scale of 0 -100. In this study, higher rating was associated with staff friendliness, punctuality, and expertise.<sup>20</sup> In the same vein, what patients experienced during earlier visits may confound their rating on the responsiveness of the service during the index visit. This is important when making

deductions from the ratings of follow up visitors, an argument that is supported by the significantly higher rating on autonomy, choice of providers and confidentiality by first-time visitors in this study.

More than two-thirds of patients in this study were referred from the accident and emergency unit of the hospital, which reinforces the reason for the preponderance of first appointments and the finding of fracture being the most frequent primary orthopaedic complain in this study. There are indications that orthopaedic presentations may be related to setting as Syed et al<sup>21</sup> in Pakistan reported low back pain as their most frequent complain among 23,495 patients attending orthopaedic clinics within a 5-year period while Gani et al,<sup>5</sup> reported spinal problems as the most prevalent complaints of orthopaedic patients in India. Bone fractures accounted for only 11% of primary complains in the latter study. The observed difference may also have resulted from the fact that patients were recruited only from the clinics in earlier reports while the index study recruited patients from other units such as the emergency units of the hospital.

Among the domains of responsiveness observed in this study, the freedom to choose care provider and cleanliness of the toilets had the poorest ratings as 71.2% and 49.1% of patients respectively rated them as being poor. The inability to allow patients to be actively involved in the choice of a care provider remain a worrisome trend in the low- and middle-income countries. Apart from the perceived cultural underpins, dearth of health providers in this setting makes it difficult to patients to have the required pool from which to make their choices<sup>4</sup>. Both Dixon et al<sup>22</sup> in the United Kingdom and Ranerup et al<sup>23</sup> reported that patients' involvement in choice of provider is a fast-growing trend in the developing world. They reported reduction of waiting times and instigating competition between providers as influences heralding this trend. Healthy competition among providers will improve responsiveness to patients, improve efficiency, improve quality, and stimulate demand for health services.<sup>22, 23</sup> Managers of the health systems in developing countries need to do more in this regard. A feasible approach is institutionalizing data collection on patient-related experiences of healthcare including the domains of responsiveness and making this data available for all stakeholders including the patients,<sup>24</sup> so they can make informed choices. Additional opportunities from such endeavours if well implemented are the availability of performance ranking of orthopaedic facilities that can be useful for trend analysis, benchmarking, and quality improvement of these practices.<sup>24</sup> Relevant information on these providers should include their core areas of competencies and clinical outcomes of

cases handled by them. Indeed, the resolution of patients' original complaints was found to be associated with a high rating from the care recipients.<sup>20</sup> With such premium given to clinical outcomes, some patients may be willing to make extra payment with the expectation of optimal clinical outcomes from their encounter with providers.

Dignity of clinical staff and privacy had the highest ratings among the domains of responsiveness analyzed. This corroborates findings from an earlier study in the setting among primary health care services.<sup>4</sup> This may reflect the emphasis placed on these areas of responsiveness as vital aspects of patient care during medical and nursing education. The ability of health workers to maintain this level of privacy in a crowded, oversubscribed tertiary facility clearly demonstrates the possibility of improving other domains of responsiveness if intentionally coordinated actions are taken in that direction.

Visit and marital status had the most consistent predictive influence on their ratings along the domains of responsiveness, others like employment, gender, education, and religion were significantly associated with specified domains. Earlier studies in Nigeria had reported age, education, marital status as significantly associated with patient rating on health service responsiveness.<sup>4,25</sup> While such patient-related characteristics are useful in explaining findings on patient rating of health service responsiveness, it is also desirable to study their utility in interventions to improve responsiveness of health services.

**Implications of the study:** The goal of the health system is not only to improve population health status but also to attain fairness in financial contribution and enhance responsiveness of the health system to the legitimate needs of the population. Responsiveness as an important index for assessing quality and equity in healthcare<sup>1</sup> should be given more attention by policy makers, managers, and health care providers. Efforts aimed at improving performances across the various domains of responsiveness will improve quality and increase utilization of health services as well as support the system's quest for universal health coverage. The findings from this study provide a baseline that can be used by policy and decision makers in planning interventions and monitoring the effectiveness of planned interventions.

**Strengths and limitation of the study:** There are a number of strengths and limitations to this study. The analysis is based on a single teaching hospital in one of six geopolitical regions in the country which may limit the generalization of the findings. However, giving the cosmopolitan nature of this setting, this may not significantly impact the importance of the findings.

Patient-reported experience are often dismissed for their subjective nature but the use of valid measures and the findings on the internal consistency in the index study are demonstration of the strengths in the measurement process. Recall bias may also be an issue but the use of direct questionnaire administration in this exit survey provided a shorter time frame for patients to provide their responses after conclusion of their visit encounters. Finally, the cross-sectional design used in this study limits causal inferences from being drawn from the findings.

### Conclusion

While most of the orthopaedic patients were pleased with the level of autonomy and dignity than choice of providers and quality of basic amenities. The gaps along all domains of responsiveness especially with respect to choosing providers require focused interventions to enhance the responsiveness of orthopedic services to the unique needs of patients to achieved improved quality of care and patient outcomes.

**Ethical consideration:** The ethical approval for this research was obtained from the research ethics committee of the University of Port Harcourt (ref: UPH/CEREMAD/REC/MM70/018). Permission was obtained from the hospital's management. The entire research and the level of patients' involvement were explained to the patient before obtaining their written consents from the patient or his/her legal representative. No incentive was given to participants in this study.

**Authors' contribution:** TED and DSO were involved in the conceptualization, planning and implementation of the study. Data collection team was headed by TED. All authors contributed to the interpretation of the results and read and approved the final manuscript.

**Conflict of interest:** Authors declare no conflict of interest.

**Funding:** None

**Acknowledgement:** We are grateful to the staff and patients in the orthopaedic unit at the University of Port Harcourt Teaching Hospital for their cooperation during the period of data collection.



## References

1. World Health Report: Health systems improving performance. 2000, Geneva, Switzerland: World Health Organization
2. Mirzoev T, Kane S. What is health systems responsiveness? Review of existing knowledge and proposed conceptual framework. *BMJ global health*. 2017 Oct 1;2(4):e000486.
3. Valentine NB, de Silva A, Kawabata K, Darby C, Murray CJL, Evans DB, Murray C, Evans D: Health systems performance assessment: debates, methods and empiricism Geneva. Health System Responsiveness: concepts, domains and operationalization. 2003, Geneva, Switzerland: World Health Organization, 573-595.
4. Ogaji DS, Egu CB, Nwakor-osaji M, Smart AC, Anyiam EF, Diorgu FC. Responsiveness of primary health care services in Nigeria: The patients' perspective. *Patient Experience Journal*. 2020;7(3):146-54.
5. Gani A, Bhat S, Gupta A. Pattern & Prevalence of Orthopaedic Outdoor patients at a tertiary level care Hospital in Jammu, India. *JK Science*. 2016 Jul 1;18(3):155-158
6. Murray CJL, Frenk J: Ranking 37th — Measuring the Performance of the U.S. Health Care System. *N Engl J Med*. 2010, 362 (2): 98-99. Doi:10.1056/NEJMp0910064.
7. Figueras J, Saltman RB, Busse R, Dubois HF: Patterns and performance in social health insurance systems. *Social health insurance systems in Western Europe*. Edited by: Saltman RB, Busse R, Figueras J. 2004, Berkshire, New York: Open University Press, 81.
8. Onuminya JE. The role of traditional bone setters in primary fracture care in Nigeria. *S Afr Med J* 2004; 94(8): 652 – 658.
9. Oyebola DD. Yoruba traditional bonesetters: the practice of orthopaedics in a primitive setting in Nigeria. *J Trauma* 1980; 20: 312 – 322.
10. Ekere AU. A review on the challenge of traditional bone setting to orthodox ortho/trauma practice in the developing world. *Niger Health J* 2004; 4: 219 – 223
11. Udosen AM, Otei OO, Onuba O. Role of traditional bone setters in Africa: experience in Calabar, Nigeria. *Ann Afr Med* 2006; 5(4): 170 – 173.
12. Nunes B, Esteves MJ. Therapeutic itineraries in rural and urban areas: a Portuguese study. *Rural Remote Health* 2006; 6(1): 394.
13. Alonge TO, Dongo AE, Nottidge TE, Omololu AB, Ogunlade SO. Traditional bonesetters in southwestern Nigeria – friends or foes? *West Afr J Med* 2004; 23(1): 81 – 84.
14. University of Port Harcourt Teaching Hospital, 5-year strategic plan (2021 - 2026), UPTH, Alakahia
15. Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). New York: John Wiley & Sons.
16. Ajayi IO, Olumide EA, Oyediran O. Patient satisfaction with the services provided at a general outpatients' clinic, Ibadan, Oyo State, Nigeria. *Afr J Med Med Sci* 2005; 34:133-40
17. Bramesfeld A, Wedegartner F, Elgeti H, Bisson S. How does mental healthcare perform in respect to service users' expectations? Evaluating inpatient and outpatient care in Germany with the WHO responsiveness concept. *BMC Health Serv Res* 2007; 7:99
18. Chariatte, V., Berchtold, A., Akre, C., Michaud, P., A., & Suris, J.C. (2007). Missed appointments in an outpatient clinic for adolescents, an approach to predict the risk of missing. *J Adolesc Health*, 43: 38–45. 10.1016/j.jadohealth.12.017
19. Onyemaechi NO, Lasebikan OA, Elachi IC, Popoola SO, Oluwadiya KS. Patronage of traditional bonesetters in Makurdi, north-central Nigeria. *Patient preference and adherence*. 2015 Feb 9:275-9.
20. Yu J, Samuel LT, Yalçin S, Sultan AA, Kamath AF. Patient-recorded physician ratings: what can we learn from 11,527 online reviews of orthopedic surgeons? *The Journal of Arthroplasty*. 2020 Jun 1;35(6):S364-7.
21. Syed, M. A., Azim, S. R., & Baig, M. (2019) Frequency of orthopedic problems among patients attending an orthopedic outpatient department: a retrospective analysis of 23 495 cases. *Ann Saudi Med*, 39(3): 172-177 DOI: 10.5144/0256-4947.2019.172
22. Dixon, A., Robertson, R., & Bal, R., (2010). The experience of implementing choice at point of referral. A comparison of Netherlands and England. *Health Econ Policy Law*, 5: 295-317
23. Ranerup, A., Noren, L., & Sparud-Linden, C., (2011). Decision support systems for choosing a primary health care provider in Sweden. *Patient Educ Couns*, 86: 342-347.



24. Ogaji DS. Patient-focused quality improvement in primary health care: opportunities with the patient evaluation scale. *Journal of Community Medicine and Primary Health Care*. 2017 Nov 2;29(2):84-96.
25. Mohammed S, Bermejo JL, Souares A, Sauerborn R, Dong H. Assessing responsiveness of health care services within a health insurance scheme in Nigeria: Users' perspectives. *BMC Health Serv Res*. 2013;13(1):502.  
<https://doi.org/10.1186/1472-6963-13-502>