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An Appraisal of the Quality of Outpatient Healthcare Services and Patients' Satisfaction at a Nigerian Mission Health Facility

Collins N. Ugwu [a], Ogbonnaya Ogbu [b], Ngozi I. Ugwu [c*], Nneka M. Chika-Igwenyi [d], Richard C. Ikeagwulonu [e], Onyedikachi E. Chukwu [f], Amadi U. Kalu [d], Olaronke F. Afolabi [g], Tobechukwu C. Iyidobi [d] and Chigozie J. Uneke [h]

[a] Department of Internal Medicine, Faculty of Clinical Medicine, College of Health Sciences, Ebonyi State University, Abakaliki, Nigeria.
[b] Department of Medical Microbiology, Faculty of Sciences, Ebonyi State University, Abakaliki, Nigeria.
[c] Department of Haematology & Immunology, Faculty of Basic Clinical Sciences, Ebonyi State University, Abakaliki, Ebonyi, Nigeria.
[d] Department of Internal Medicine, Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria.
[e] Department of Chemical Pathology, Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria.
[f] African Institute for Health Policy and Systems, Ebonyi State University, Abakaliki, Nigeria.
[g] Department of Internal Medicine, Faculty of Clinical Medicine, Ebonyi State University, Abakaliki, Ebonyi State, Nigeria.
[h] African Institute of Health Policy and Health Systems, Ebonyi State University, Abakaliki, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The cardinal goal of the hospital is to provide quality healthcare services to the patients, which is measured by patient's satisfaction. This study aimed to determine patients' knowledge and satisfaction about the factors that contribute to quality of outpatients' healthcare services, to

**Corresponding author: E-mail: ngoziugwu5@gmail.com;*

determine whether socio-demographic factors have any effect on patient satisfaction and to determine the effect of educational intervention on their knowledge and satisfaction. A quasi-experimental study (in which before-after technique) was carried over six months period. Systematic sampling technique was used to recruit adult patients exiting the out-patient department of the hospital. A semi-structured, interviewer administered modified SERVQUAL questionnaire was used to assess satisfaction and knowledge, followed by educational intervention and subsequently post intervention assessment after two months. The data generated were analysed using SPSS software version, 26. Three hundred and fifty adult patients participated in the pre-intervention stage while 165 patients were interviewed post-intervention. The proportion of the participants who had good knowledge pre-intervention, was high (91.7%) while 88.3% were satisfied with the quality of healthcare services. The empathy domain had the highest mean score of 4.02 while the responsiveness domain had lowest mean score of 3.29. Post-intervention, the knowledge level improved from 91.7% to 95.2% and satisfaction improved from 88.3% to 96.2% with mean score of 4.14. Gender did not have any influence on the level of knowledge and satisfaction across the various domains. However, there was increased satisfaction among the older patients (≥50 years) which was statistically significant [Tangible domain (X2 = 22.621, P = 0.000)]. Educational intervention was effective in improving level of knowledge about the factors that influence quality of care and level of satisfaction with the quality of care received at the hospital. The hospital management needs to prioritize interventions to improve the responsiveness of the services provided in the hospital to improve the quality of service and enhance patients' satisfaction.

Keywords: Healthcare services; patients' satisfaction; quality; Nigeria.

1. INTRODUCTION

Cardinal goal of the hospital is to ensure that quality healthcare services are provided for the clients. One way of measuring effectiveness and success of services in hospitals is clients' satisfaction [1]. The survival of any company depends on the patronage by the customers either for goods or services from the company, hence the company can only retain its customers by offering quality goods or services. Customers often have high expectations and the patient as a buyer of healthcare services, has the right to demand for quality healthcare services.

One way of measuring success of healthcare services is through client's satisfaction [1]. Client's satisfaction is difficult to assess as it is affected by both clinical and non-clinical aspects [2]. Patients' views on the quality of services can assist policy makers to design, implement and evaluate services in order to improve healthcare service delivery.

Healthcare quality can be defined as the degree to which health care services increase the likelihood of desired health outcomes [3]. Client satisfaction is a measure of the extent to which the clients are content with the health care they received from their health care provider [4]. An appraisal of patient satisfaction is capable of yielding good results that will be used for health policy development and planning [5]. The cause of satisfaction or dissatisfaction could result from any of the service points or areas, such as the accounts, consulting rooms, the laboratory or the Pharmacy sections. It could also result from the hospital environment or the attitude of the staff.

Healthcare service delivery could be seen as an interaction between client and provider where the provider offers a service and the client either finds value or loses value as a result of the interaction [6]. Quality services in healthcare delivery could be taken as services that the patient needs, when the patient needs it, in an effective, affordable and safe manner [7]. The importance of quality of care in health service delivery is that it encourages healthcare services utilization [8], as well as improved compliance and adherence to treatment [9] and this ultimately leads to improved health outcomes [10]. The assessment of healthcare quality could be from the viewpoint of the managers of institution, healthcare providers or clients [11]. Feedback about the quality of services rendered is provided by the assessment of client perception of quality of care highlighting areas of strengths and weaknesses that need to be addressed. Consumer dissatisfaction occurs when actual performance of service by an organisation is deficient. Contrarily, when the perception of service provision is higher than the expectations, consumers have high degree of satisfaction [12]. Studies from different parts of the world have reported different degrees of

client overall satisfaction with healthcare services ranging from 22% to 95% [13]. Various problems have been reported by many of these studies which include long waiting times, negative attitude by the healthcare staff, unavailability of essential drugs, quality of clinical services provided, infrastructure in the health facility, cost of services provided, emotional support, physical comfort and respect for client's choice [14].

The outpatient clinic serves as the gateway to almost all of hospital care services and worldwide, about 80% of clients in hospital are often attended to at the outpatient department [15]. This implies that the findings from surveys or studies on quality of care at outpatient clinics would be taken as a true reflection of the quality of care in the entire hospital.

Previous studies have given different reports on patient's satisfaction with healthcare services in Nigeria [16-21]. Most studies in Nigeria were done in government owned hospitals and were also not interventional studies. There is paucity of data on the quality of healthcare services and patients' satisfaction among mission hospitals even though mission hospitals have continued to play critical and significant roles in the provision of health care services in Nigeria. Many of the mission hospitals are located in the resource-poor environment and if they can provide quality care and satisfy the expectations of the patients, this will definitely improve the quality of care offered to the rural dwellers. The mission hospitals may serve as excellent alternatives in resource poor environment where government facilities are not available or not sufficiently equipped both in human and material resources to offer quality services. At the moment, there have not been such studies in mission hospitals in the South East Nigeria, hence the need for this study. This study aimed to determine patients' knowledge about the factors that contribute to quality of outpatients' healthcare services and patients' satisfaction, to determine whether socio-demographic factors have any effect on patients' satisfaction and to determine the effect of educational intervention on their knowledge and satisfaction with healthcare services.

2. MATERIALS AND METHODS

2.1 Study Area

This study was carried out at Mater Misericordia hospital located at Afikpo, Ebonyi State, South Eastern Nigeria.

2.2 Study Design

The study was a quasi-experimental (before-after) study.

2.3 Study Population

The study group consisted of adult patients (18 years and above) who were chosen from among the 16,000 patients that accessed services at any of the service points in the hospital within the study period. The service points were: General Outpatient Department (GOPD), Record unit, Pharmacy, Laboratories, Revenue section, ante-natal clinic and radiology department.

2.4 Sample Size of the Study

Sample size for the study was calculated using equation $N=Z^2pq/d$ [22], where Z is the standard normal deviate set at 1.96 at 95% confidence level; p= prevalence of patient satisfaction; q=1-p; d=degree of accuracy desired set at 0.05. Assuming 50% level of satisfaction and therefore p of 0.5, a sample size of 384 was calculated. However, to cover for incompletely filled, non-response and non-return form, the sample size was increased to 400.

2.5 Study Inclusion and Exclusion Criteria

All adult patients of age 18 years and above who gave their consent for the study were included. Only patients who participated in the pre-intervention survey were allowed to participate in the post-intervention survey. On the other hand, unconscious patients, inpatients, children, psychometrically unstable patients were excluded from the study. In addition, all staff of the hospital and their relatives were also excluded.

2.6 Sampling Technique

Systematic sampling technique was used to select the patients. Every third patient was selected each day of the study, as they presented at the exit points of the chosen departments of the hospital. The study was conducted within a period of 6 months, from October 2017 to March 2018. The response was scored on 5 points Likert scale, with score of less than 3 taken as dissatisfied or poor quality services and score of 3 and above taken as satisfied or good quality services.

2.7 Data Collection and Data Instrument

Pre-tested, semi-structured, interviewer-administered questionnaire was used and was designed to examine several aspects of hospital care. Questions included in the instrument were devised based on modified SERVQUAL questionnaire [23]. The questionnaire had 44 items and comprised of the following sections, Section A compromised of the socio-demography of the participants, section B consisted of questions that assessed the knowledge of the participants of factors that contribute to quality of health care. Section C consisted of questions that assessed the level of satisfaction across the various satisfaction domains such as Tangible, Empathy, Assurance/Communication and Responsiveness while section D assessed the overall satisfaction of the participants. The questionnaires were administered by trained research assistants after obtaining informed written consent from all subjects, which they filled and returned. To maintain confidentiality, names were not recorded on the questionnaire. Baseline data collection was carried out, followed by educational intervention that lasted for one month. Two months after the intervention, post-interventional survey was carried out during which the same questionnaires were administered to the patients who had participated in the pre-intervention survey to assess the effect of the behavioural change communication programme.

Participants indicated their level of knowledge /satisfaction by selecting responses to questions denoting different grades ranging from very poor = 1, poor = 2, good=3, very good=4 and excellent=5. Those who chose very poor and poor were considered dissatisfied while those who selected good, very good and excellent were considered satisfied.

The educational intervention was incorporated into health education that was given to the patients at the waiting areas at the beginning of each clinic day. The patients were educated on the available services offered by the hospital and the roles of the various healthcare professionals. The locations of the various service points such as, the consulting rooms, the laboratory, the radiology department, the toilet areas and other service points. The patients were also educated on their rights and responsibilities and were allowed to ask questions about the areas of concern and answers were given.

2.8 Scoring of Outcome Variables

Knowledge: A total of 9 questions were used to assess knowledge. Patients indicated their level of knowledge by selecting responses ranging from strongly disagree =1, disagree=2, fairly agree (good) =3, agree (very good)=4 and strongly agree (excellent) =5. Those who choose 1and 2 were considered to have poor knowledge while those who selected 3 to 5 were considered to have good knowledge.

Level of satisfaction: This was assessed across the dimensions or domains such as Tangible (5 questions), Empathy (7 questions), Assurance/Communication (16 questions), Responsiveness/ waiting time (4 questions) and overall satisfaction (1 question). A score of below 3 was regarded as dissatisfaction while a score of 3 and above was regarded as satisfactory.

2.9 Data Analysis

Data collected were cleaned for inconsistencies in the responses, coded and entered into the computer using IBM statistical package for social sciences (SPSS) software, version 20 and analyzed. Descriptive statistics were used to compute percentages, proportions, mean and averages. Chi square and Fisher's test were used to test for associations between variables as appropriate. Multiple regression model was used to identify the predictors of satisfaction with health care services. P-value less than 0.05 ($P < 0.05$) was considered significant. Results were presented in tables and charts, and expressed as percentages/ proportions, means and standard deviation.

3. RESULTS

Out the 400 questionnaires given out pre-intervention, 350 were filled while 165 were filled out of 180 questionnaires given out post-intervention, and were used for analysis.

3.1 Socio-demographic Characteristics

All the patients that participated in the post-intervention took part in the pre-intervention survey. They comprised 223 females and 127 males for pre-intervention as well as 90 females and 75 males for post-intervention. The age range of the participants was 18-82 years with a mean age of 39±14. A higher proportion of the participants, (52.3% and 60%) were within the age group of 30-49 years pre-intervention and

Table 1. Socio-demographic characteristics of the study participants

	Pre-intervention		Post-intervention	
Characteristics	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Sex				
Females	223	63.7	90	54.5
Males	127	36.3	75	45.5
Total	**350**	**100**	**165**	**100**
Age (Years)				
18-29	96	27.4	15	9.1
30-39	105	30	48	29.1
40-49	78	22.3	51	30.9
50-59	34	9.7	22	13.3
≥ 60	37	10.6	29	17.6
Total	**350**	**100**	**165**	**100**
Level of Education				
None	34	9.7	31	18.8
Primary	80	22.8	29	17.6
Secondary	107	30.6	60	36.4
Tertiary	129	36.9	45	27.2
Total	**350**	**100**	**165**	**100**
Marital status				
Single	96	27.4	13	7.9
Married	213	60.9	143	86.7
Widow	31	8.9	8	4.8
Widower	5	1.4	0	0
Divorced	5	1.4	1	0.6
Total	**350**	**100**	**165**	**100**
Occupation				
Civil servant	68	19.4	38	23
Trading	80	22.9	35	21.2
Artisan/contractor	9	2.6	11	6.7
Public servant	26	7.4	8	4.8
Farming	96	27.4	61	37
Students/unemployed	71	20.3	12	7.3
Total	**350**	**100**	**165**	**100**
Religion				
Christianity	339	96.9	163	98.8
African traditional rel.	7	2	2	1.2
Islam	4	1.1	0	0
Total	**350**	**100**	**165**	**100**

post-intervention respectively. Pre-intervention, 314(89.72%) of the participants had formal education and 134 (81.22%) post-intervention. Most of them (96.86%) were Christians. Majority (61.14% and 86.67%) of the participants were married (Table 1).

3.2 The Patients' Knowledge of Factors that Influence the Quality of Care

Patients' knowledge of the factors that influence the quality of care in the study was high with mean of 4.03(80.6%), majority of the participants scored more than four points which further increased after the intervention. Knowledge of the importance of the prompt retrievals of folders, availability of appropriate equipment and availability of skilled personnel had the highest mean score (Table 2).

3.3 The Patients' Satisfaction with the Tangible/Technical Domain

The patients were satisfied with the cleanliness of Out Patient Department (OPD)/ Ante-natal clinic (ANC) (4.07), which had the highest rating, comfort and convenience at the OPD, availability of drugs, equipment and personnel. They were

not satisfied with the cost of services which they opined to be expensive, the satisfaction did not even improve even after the intervention, as such intervention did not influence the reduction in the cost of the services. The satisfaction further improved in every other component after the intervention.

3.4 Empathy Domain (Evaluation of Interpersonal Relationship)

In this dimension the doctors' friendliness to the patients had the highest rating with a mean of 4.20, closely followed by the nurses (4.18), ward orderlies (4.00), Pharmacy staff (3.99), Laboratory staff (3.9) and account staff (3.75). The patients were satisfied with the interpersonal relationship as shown by the mean score (Table 4).

3.5 Assurance/ Communication Domain, comparison among different Health care workers

The patients were satisfied with assurance and communication skills of the health workers in the facility before the intervention, but the level of satisfaction varied among them. Patients had the highest level of satisfaction with the doctors with a mean score of 4.19 and followed by the nurses with a mean score of 4.13, while the Pharmacy staff and the laboratory staff scored 4.02 and 3.76 respectively. Post-intervention, there was improvement in the level of satisfaction among the different health care workers (Table 5).

3.6 Responsiveness and Waiting Time Domain

The patients were satisfied with responsiveness and waiting time but the level was lower than those of tangible, empathy, assurance and communication. There was not much improvement even after intervention (Table 6).

3.7 The Overall Satisfaction with the Quality of Care Received and Willingness to Recommend the Facility to Others

The overall satisfaction with the quality of care was high (88.3%) pre-intervention and increased to 95.2% post-intervention. Overall satisfaction mean was 4.04±0.94 pre-intervention and increased to 4.14±0.74 post-intervention (Table 7).

Table 2. Patients' knowledge of factors that influence quality of care

	Pre-intervention			Post intervention	
Characteristics	**Mean**	**SD**	**Range**	**Mean**	**SD**
Conducive hospital environment	4.03	±0.72	1-5	4.25	±0.72
Timely attention by the hospital staff	3.89	±1.01	1-5	4.19	±0.72
Availability of skilled personnel	3.90	±0.82	1-5	4.57	±0.42
Prompt retrieval of folders (case notes)	4.17	±0.52	1-5	4.45	±0.51
Friendliness of hospital staff	3.98	±0.71	1-5	4.19	±0.80
Availability of prescribed drugs	4.04	±0.81	1-5	4.21	±0.73
Communication/education about medicare	4.15	±0.90	1-5	4.41	±0.43
Availability of appropriate equipment	4.10	±0.74	1-5	4.44	0.53
Prompt release of lab. investigation results	4.02	±0.82	1-5	4.21	0.72

SD – Standard deviation

Table 3. Patients' satisfaction-tangible domain

	Pre-intervention			Post-intervention	
Characteristics	**Mean**	**SD**	**Range**	**Mean**	**SD**
Cleanness of OPD/ANC	4.07	±0.69	1-5	4.16	±0.79
Comfort/convenience of OPD	3.78	±0.79	1-5	4.08	±0.87
Availability of drugs	3.83	±1.0	1-5	4.11	±0.88
Cost of services	2.95	±0.90	1-5	2.97	±0.91
Availability of necessary equipment	3.92	±1.0	1-5	4.12	±0.84
Adequacy of doctors/nurses	4.04	±0.78	1-5	4.18	±0.80

SD – Standard deviation

Table 4. Empathy domain

	Pre-intervention			Post-intervention	
Characteristics	**Mean**	**SD**	**Range**	**Mean**	**SD**
Caring attitude of nurses	4.18	±0.66	1-5	4.23	±0.72
Friendliness of the doctors	4.20	±0.80	1-5	4.25	±0.73
Courtesy of ward orderlies	4.00	±1.0	1-5	4.09	±0.79
Friendliness of Laboratory staff	3.96	±0.4.13	1-5	4.13	±0.83
Friendliness of Pharmacy staff	3.99	±1.00	1-5	4.16	±0.79
Friendliness of account staff	3.75	±1.11	1-5	4.03	±0.88
Friendliness of Radiology staff	3.85	±1.04	1-5	4.09	±0.80

SD - Standard deviation

Table 5. Assurance/communication domain

	Pre-intervention			Post-intervention	
Characteristics	**Mean**	**SD**	**Range**	**Mean**	**SD**
Rate the Doctors					
Willingness to listen carefully	4.28	±0.72	1-5	4.29	±0.70
Taking time to answer questions	4.16	±0.81	1-5	4.22	±0.78
Explaining this in a way that is understood	4,10	±0.09	1-5	4.15	±0.74
Instruction regarding medicare	4.22	±0.71	1-5	4.24	±0.75
Rate the Nurses					
Willingness to listen carefully	4,25	±0.74	1-5	4.27	±0.72
Taking time to answer questions	4.11	±0.74	1-5	4.20	±0.76
Explaining this in a way that is understood	4.09	±0.90	1-5	4.13	±0.76
Instruction regarding medicare	4.10	±0.76	1-5	4.18	±0.73
Rate the Pharmacy staff					
Willingness to listen carefully	4.00	±1.00	1-5	4.06	±0.74
Taking time to answer questions	3.95	±1.00	1-5	4.09	±0.79
Explaining this in a way that is understood	4.08	±0.91	1-5	4.08	±0.77
Instruction regarding medicare	4.06	±0.40	1-5	4.11	±0.87
Rate the laboratory staff					
Willingness to listen carefully	3.90	±0.81	1-5	4.00	±0.86
Taking time to answer questions	3.95	±1.00	1-5	3.95	±1.01
Explaining this in a way that is understood	3.94	±0.70	1-5	3.95	±1.00
Instruction regarding lab. Investigation	3.28	±1.40	1-5	3.34	±1.30

SD – Standard deviation

Table 6. Responsiveness and waiting time

	Pre-intervention			Post-intervention	
Characteristics	**Mean**	**SD**	**Range**	**Mean**	**SD**
Waiting time in bringing out folder	3.68	±1.12	1-5	4.04	±0.82
Waiting time before seeing a doctor	3.10	±1.4	1-5	3.64	±1.01
Waiting time to collect drugs	3.13	±1.5	1-5	3.49	±1.13
Promptness in the release of laboratory results	3.28	±1.4	1-5	3.34	±1.30

SD – Standard deviation

3.8 The Effect of Socio-Demographic Factors on the Level of Knowledge and satisfaction among the Study Participants

The study showed that gender did not have any influence on the level of knowledge and satisfaction across the various domains. The age of the patients did not have any significant influence on the level of knowledge of the factors that affect quality of healthcare services and Responsiveness domain (X^2 = 6.340, P = 0.175). However, there was increased satisfaction among the older patients (50 years and above) which was statistically significant. Tangible domain (X^2= 22.621, P = 0.000), Empathy

domain (X^2= 13.97, P = 0.007), Assurance/communication (X^2 = 24.29, P = 0.000) and overall satisfaction (X^2 = 11.11, P = 0.025).

The level of education did not have any significant effect on the level of knowledge of the factors that affect the quality of care, level of satisfaction on Tangible, Empathy and Assurance/ communication domains (X^2 = 7.82, P = 0.098). However, more educated people showed dissatisfaction with domain of Responsiveness, 48% of them were dissatisfied (X^2 = 18.32, P = 0.001). This dissatisfaction did not have any significant effect on the overall satisfaction (X^2 = 0.88, P = 0.927). Occupation had no effect on satisfaction across the different domains except for Responsiveness domain where 43.7% of the unemployed were dissatisfied (X^2 = 24.74, P = 0.000). This did not have significant effect on the overall satisfaction (X^2 = 8.01, P = 0.237). Religion had no effect except on Comfort/ convenience where 42.3% of the Muslims expressed dissatisfaction (X^2 = 15.84, P = 0.000). This had insignificant effect on the overall satisfaction as 74.4% of them were satisfied with the quality of services rendered in the hospital. Marital status had no effect on knowledge and level of satisfaction across the different domains and no effect on the overall satisfaction.

3.9 Level of Satisfaction across different Quality Domains

The satisfaction level across the different domains showed that the patients were satisfied across all the domains but were more satisfied with the empathy, assurance/ communication domains. The lowest score was the responsiveness domain even after the intervention (Fig. 1).

Table 7. Level of Satisfaction and dissatisfaction among the study participants

	Pre-intervention		Post-intervention	
Characteristics	**Dissatisfied No (%)**	**Satisfied No (%)**	**Dissatisfied No (%)**	**Satisfied No (%)**
Tangible	44 (12.6)	306 (87.4)	8 (4.8)	157 (95.2)
Empathy	30 (8.6)	320 (91.4)	6 (3.6)	159 (96.4)
Assurance/communication				
Doctor	23 (6.6)	327 (93.4)	4 (2.4)	161 (97.6)
Nurse	27 (7.1)	325 (92.9)	5 (3.0)	160 (97.0)
Pharmacist	33 (9.4)	317 (90.6)	6 (3.6)	159 (96.4)
Laboratory scientist	31 (8.9)	319 (91.1)	6 (3.6)	159 (96.4)
Responsiveness	117 (33.4)	233 (66.6)	18 (10.9)	147 (89.1)
Overall satisfaction	41 (11.7)	309 (88.3)	8 (4.6)	157 (95.2)

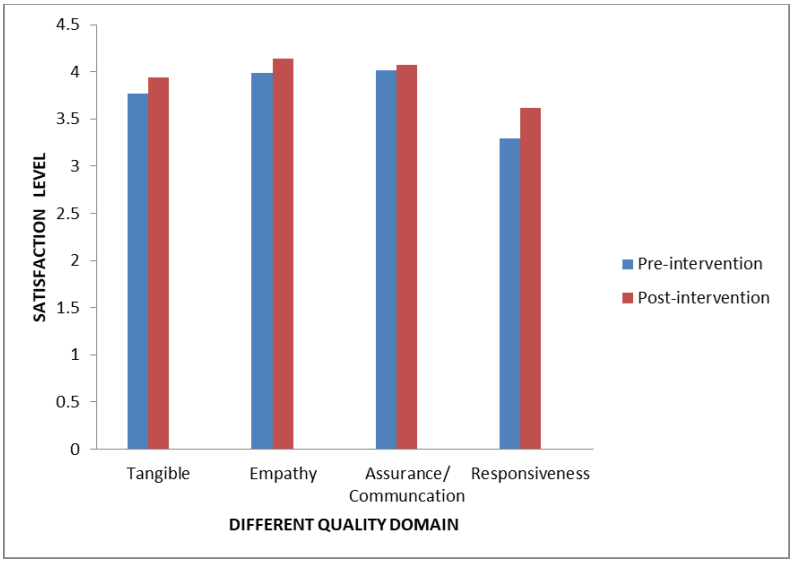

Fig. 1. Mean satisfaction level among the different quality domains

4. DISCUSSION

This study found that the knowledge of the participants about contributory factors to quality health care services was high, as 91.7% had good knowledge of prior intervention and increased to 95.2% post-intervention. This was contrary to the finding in another study which reported that the patients may be incompetent in judging the quality of health care received at healthcare facilities as a result of poor knowledge [24]. This could be explained by improvement in information dissemination because of improved information technology in 2018 when compared with available information in 1995 and 2007 respectively. The high knowledge level could also be explained by the fact that many of the patients had chronic non-communicable diseases like hypertension and Diabetes that require long term regular outpatient clinic visits and exposure to regular health education including services offered by the healthcare personnel. This was not directly investigated by the study and require further studies to establish that assumption. The post intervention improvement in knowledge level could be explained by re-enforcement of what was already known by the patients.

This study also showed overall high level of satisfaction of the clients on the quality of health care services rendered with a mean score of 4.04 pre-intervention, which improved further post-intervention with mean score of 4.14. Pre-intervention 88.3% of the participants were satisfied with the quality of healthcare services offered by the facility which further increased to 95.2% post-intervention. This overall satisfaction was higher when compared to the findings by Umeano-Enemouh et al*.,* [19] who reported overall mean satisfaction level of 3.7, whereas Ilo et al*.,* reported 3.1 in another study in a tertiary health facility in South East Nigeria. [18] Finding of this study was also higher than what was reported by Raheem et al*.,* in private hospital in Pakistan (70%). [25] Similarly, Kabatooro et al., in Malugo Uganda reported overall satisfaction of 53.9%. [26] In addition, low level of satisfaction was also found in a hospital in Dares Salaam, Tanzania, where overall dissatisfaction was reported which was found to cut across different domains of quality of healthcare services such as assurance, reliability, tangible and responsiveness [27]. The high level of satisfaction reported in this study was comparable with results from similar studies in well-established government hospitals within and outside Nigeria. Olusina et al., reported that 75% outpatients were satisfied with services at a health care institution [28]. Report by Abdal et al., in a study conducted among outpatient health care facilities of Qatar showed overall satisfaction rate of 75.2% [29]. Iliyasu et al, in Kano, 83%, Uzochukwu et al, in Enugu, 94%, Ogunnowo et al., in Lagos, 95%, while Abdodunrin et al., reported satisfaction level of 97% [17,20,21,30]. The result of this study was also comparable to similar studies in India where Garg et al., reported 88% overall satisfaction while Qadri et al., in Punjab reported 89.1% [31,32]. Similarly, higher level of satisfaction (94%) was reported by De-Brun et al., with outdoor patient services in health facilities [33].

The post-intervention improvement reported in this study could not be compared with any of the other studies because they were not interventional studies. The clean hospital environment reported in this study was contrary to the poor sanitation of the toilets reported in previous studies [30,31]. However, high cost of drugs at the clinic facilities had the lowest score on the tangibles domain where the mean score was 2.95 pre-intervention and remained low post-intervention with mean score of 2.97. The high cost of service was also reported by Adekahnye et al., and Ilo et al., [5,18]. Shan et al., concluded that high cost of services was associated with dissatisfaction [34]. The inability of the hospital to reduce the cost of drugs was as a result the prevailing economic reality, however those enrolled with national health insurance reported that the cost of drugs and services were cheap. This is an area of concern that the hospital management can improve upon. However, this perceived high cost of health services by patients should be taken with caution as there is no comparator hospital within the area, and cost could be considered relatively expensive when compared to what is paid at patent medicine dealers or some private hospitals. This cost limitation can be circumvented by encouraging more patients to enrol with the national health insurance scheme especially now that private individuals can enrol with yearly renewal.

The satisfaction level across Empathy, Assurance and Communication domains were comparable with the results from previous studies [19,20]. The patients were satisfied with the interpersonal relationship as shown by the mean score. The doctors scored the highest rating with mean score of 4.20, closely followed

by the nurses (4.18). This was similar to the report by Ilo *et al*, and Kulkarni et al., but contrary to the study by Uzochukwu et al., where the Pharmacist had the highest score followed by the rating of the doctor [18,35,20]. The long waiting time before evaluation affected the rating of the doctor. The study showed that those who were involved in core clinical duties such as the doctors and nurses had higher rating when compared with the Pharmacy, Laboratory and account staff. This could be explained by the more intimate interaction that existed between them as the doctors and nurses offer explanation about the nature of the illness to the patients. By training, these group of health care providers are expected to be more empathic as front-liners in clinical care.

The relatively lower satisfaction observed in the responsiveness domain was similar to the finding in a previous study [21]. In all the studies, the patients expressed concern over the long waiting time before accessing healthcare services but it had insignificant effect on the overall satisfaction. The overall mean score for the responsive domain was 3.29 pre-intervention and 3.62 post-intervention which suggests an overall good performance although the domain of Responsiveness had the lowest mean score when compared with other domains. Waiting time before seeing a doctor recorded the lowest score of 3.10. The domain of Responsiveness did not show much improvement even after intervention. The management need to improve on these areas through the analysis of the processes currently employed in the hospital record section in order to identify ways to minimize the time spent in the retrieval of case notes. In order to identify areas with the greatest delay that require further intervention, the long waiting time needs to be addressed through patients' movement assessment. The attitude of the doctor recorded the highest score of 4.28. His/her willingness to listen carefully to the patient and taking time to answer his or her questions increased the satisfaction of the patients. This was similar to the finding of Garg et al., in India [31]. This is a good outcome that should not only be encouraged but maintained and improved upon. Some other studies have used various tools and methodologies to assess service quality which makes comparison with this study inappropriate [36,37]. The most important predictor of overall service quality as shown by this study was Empathy, and Assurance/communication domains. Therefore, in order to achieve and maintain efficient quality healthcare services, health facilities must place a high premium on effective communication which was also supported by the post-intervention findings that demonstrated further improvement in the level of satisfaction across the different healthcare domains.

This study also evaluated the effects of socio-demographic factors on the knowledge of factors that influence quality of healthcare as well as level of satisfaction and found no significant effect of gender on the knowledge and the level of satisfaction across the different domains and the overall satisfaction. This was similar to the report by Hall and Dornan, who in a meta-analysis found no overall relationship with ethnicity, sex and level of satisfaction [38]. Sixma, however reported that the socio-demographic factors have significant effect [39]. The age of patients in this study did not have significant effect on the knowledge but had significant effect on the level of satisfaction across all the various domains and the overall satisfaction. The older population, 50 years and above showed consistently higher level of satisfaction across the different quality domains which was statistically significant. The increased clients' satisfaction with increasing age recorded in this study agrees with the report of previous studies, which found that the client satisfaction scores improved with increasing age. This could be due to cultural reasons where older population are given more attention and treated with respect [40,41].

This study did not find any significant effect between the educational attainment and the level of satisfaction, which was supported by the report of Hall and Dorman, except on the Responsiveness domain where 48% of the more educated people were not satisfied with the waiting time before assessing care [38]. This however did not have significant effect on the overall satisfaction as over 84% of this group were satisfied with quality of care in the health facility. Similarly, level of satisfaction was not affected by the occupation of the participants except for the unemployed, where 43% of them were dissatisfied with the long waiting time but did not significantly affect their overall satisfaction level. This was contrary to finding by Hall and Dornan, where lower economic status was associated with more satisfaction [38].

In a similar way, level of satisfaction was not significantly affected by religion except for the Muslims who expressed dissatisfaction over the

toilet setting and preferred a separate arrangement to enable them to fulfil their religious obligation. This complaint did not have significant effect on the overall satisfaction which was 71.4%. This area requires attention by the hospital management to enhance their satisfaction. The level of satisfaction was not significantly affected by marital status of the participants. Generally, the socio-demographic factors did not have significant effect on the level of satisfaction except for age that consistently showed increasing satisfaction with increasing age as was also reported by previous studies [38,40,41].

5. CONCLUSION

This study showed that the patients had good knowledge about factors that contributed to the quality of health care services. This study also reported high level of satisfaction among the patients that visited the facility for healthcare services. The high level of satisfaction was seen in all the service domains. However, responsiveness domain had relatively lower satisfaction level. The patients were not satisfied with high cost of drugs in the facility. The socio-demographic factors did not have any significant effect on the level of satisfaction except the age of the patient which consistently showed higher level of satisfaction with increasing age. Educational intervention resulted in further improvement both in the level of knowledge and satisfaction.

6. LIMITATIONS OF THE STUDY

The study focused only on outpatients and the finding from the outpatient department may not be generalized to inpatients. However, since 80% of patients admitted into the ward pass through outpatient department educational intervention and advocacy will help to improve the quality of healthcare services and hence, patients' satisfaction.

CONSENT AND ETHICAL APPROVAL

The study was approved by the Ebonyi State University Research and Ethics Committee (EBSU-REC) and approval was also obtained from the hospital administration. The nature, purpose and process of the study were explained to the participants after which informed written consent was obtained from each participant before being included in the study. They were clearly informed that participation in the study was strictly voluntary and that they have the right to refuse or withdraw their consent to participate in the research at any time and that will not affect the quality of health care services given to them. To ensure confidentiality and guarantee the anonymity of each participant, the names of participants, their addresses or other identifying information were not included in the questionnaire. The questionnaires were identified with code numbers rather than names. All data was kept secure and made available to only members of the research team.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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