

Research Article

Assessment of Patients Satisfaction with Cataract Surgical Services in Katsina State, Nigeria

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Received: January 10, 2022; Accepted: February 08, 2022; Published: February 15, 2022

Abstract

Background: The 2030 United Nations Sustainable Development Goals has universal health coverage (UHC) as one of its major targets. The UHC includes improving access to health care through quality essential health services with adequate financial coverage to everyone. Patient's satisfaction with services is considered a significant part of assessing health outcomes and quality of services. Thus, a qualitative patients satisfaction study was conducted for the free cataract surgical services in Katsina state of Nigeria.

Methods: The short form of the Patient Satisfaction Questionnaire (PSQ-III) - Long form (RAND version) called PSQ-18 was administered to 200 randomly selected beneficiaries of the cataract surgical services conducted within the 3rd quarter of 2021 in the state. During the first follow up visit of the patients, the questionnaire was administered to all participants in the local language. Demographic information was also collected. Data was entered into SPSS and analyzed.

Results: Participants reported a 'General satisfaction' score of 9.7 out of 10. The six other domains had high scores except the domain 'Time spent with doctor', which scored only 5.25 out of 10. Women seem to be more satisfied than men regarding "communication" and "Access/Availability/Convenience" domains. However, there was no correlation between the age and any of the satisfaction scores. Major concerns of participants were inadequate interaction with the doctors especially in the post-operative period.

Conclusion: Even though the surgical services achieved high patients' satisfaction scores there is need to improve the interaction period between the doctors and patients particularly in the post-operative care period.

Keywords: Quality; Satisfaction; Cataract; Surgery; Katsina; Nigeria

Introduction

The United Nations Sustainable Development Goal (SDG) number 3 (Ensure healthy lives and promote well-being for all at all ages) has universal health coverage (UHC) as one of its major targets (target 3.8). The UHC comprises two main components: quality, essential health service coverage and financial coverage to the whole population [1]. Quality of health care services goes beyond better clinical outcomes, but also includes social and psychological satisfaction of the beneficiaries. Patient satisfaction with health care services is considered a fundamental and significant aspect when assessing health care outcomes and quality, this has led to increased emphasis on patient satisfaction [2,3]. In addition, there is strong link between patient satisfaction, on one hand, and patient compliance and adherence to subsequent appointments affecting clinical outcomes [4]. The inclusion of patient's opinion in evaluating the quality of services has gained substantial importance over the past 40 years in better determining the effectiveness of medical care [5].

The Katsina state government in partnership with Noor Dubai Foundation established a 4-year comprehensive eye care program in the state in October 2019. A major part of the program is provision of free cataract surgical services in three surgical centers located in Katsina, Daura and Funtua towns through local partners. The

program is to double the cataract surgical rate and quality of cataract surgeries in the state. Since October 2019, every quarter 200 cataract surgeries are conducted in each of Funtua and Daura surgical centers, while 450 are conducted at the Katsina eye centre. Although there was suspension of services in the second and third quarter of 2020 due to the Covid-19 lockdowns. The program had operated 5022 people by September 2021. An annual and quarterly review of these services examines the quality of the work by assessing the post-operative visual outcomes to ensure it achieves the recommended WHO levels for 'Good Outcome' and 'Poor Outcomes'. Currently 62% of the operated have achieved a 'good outcome' at the first post-operative day, the WHO recommends achieving at least >60%. However, the percentage of operated eyes with 'poor outcome' is 7%, while the WHO recommended level for 'poor outcomes' should not be more than 5% [2]. The program has set up measures to increase 'good outcomes' and decrease 'poor outcomes'. These include providing more diagnostic and surgical equipment at the surgical centers. However, clinical outcomes of medical interventions does not always determine the patients' satisfactions with the services offered [3,4].

The measurement of patient satisfaction is important for service providers in order to be able to monitor performance continuously to set high standards for the services, and to provide employees

feedback regarding their performance [7]. Thus, we decided to conduct a qualitative patient satisfaction study to measure the level of patients happiness with our services, towards improving the patients experiences and satisfaction using the short form of the Patient Satisfaction Questionnaire (PSQ-III) – Long form (RAND version) called PSQ-18 [8,9].

The aim of this study was to assess the satisfaction of patients that have received cataract surgical intervention in the three surgical centers in Katsina state, Nigeria in the third quarter of September 2021. The specific objectives for this study were to obtain the general characteristics of patients that had cataract surgery in the program and measure the satisfaction of patients' that received the services.

Methods

Participants

A convenient sample of 200 patients out of the 850 patients that have had cataract surgery in the three surgical centers in the third quarter of 2021 were recruited for this study. In each of the surgical centers at least 20% of the operated cases in the quarter were randomly selected by systematically choosing every fifth person reporting for the week-one post-operative assessment across the centers. In all centers over 95% of the operated cases reported for the one week post-operative review appointment. Thus, one hundred patients from Katsina centre and fifty each from Daura and Funtua centers were selected for the study. The inclusion criteria were: All patients operated for cataract within the third quarter of 2021 at any of the three surgical outreach centers. Patients that can directly communicate in either Hausa or English languages. To avoid bias all patients were interviewed by an experienced researcher who was not involved in the provision of the cataract services. Consent for participating in the study was obtained verbally by the researcher prior to administering the survey based on a written consent form that was read to the study participants. Ethical approval for the study was obtained from the Katsina state Ministry of Health.

Interviewer (Bashir Elladan)

To ensure consistency and standard only one Interviewer administered all the questionnaires. He was a male researcher with higher diploma in statistics and had experience in qualitative financial and social researches including client's satisfaction surveys and PSQ-18. He is a native Hausa speaker who is currently the Monitoring and Evaluation officer of Noor Dubai Foundation Africa. Thus, he does not have direct relationship with the patients nor the partners conducting the surgeries for the Foundation. In addition, the patients also do not know the position or affiliation of the interviewer. The research was conducted as part of his role in measuring and monitoring quality of the services.

Measure: The PSQ-18

The short form of the Patient Satisfaction Questionnaire (PSQ-III) - Long form (RAND version) called PSQ-18 was used for this study 8,9. The PSQ-18 is an 18-item survey grouped into seven domains namely:

- General Satisfaction (GSAT-2 items) with medical care as well as satisfaction with six aspects of care:
- Technical Quality (TECH-4 items): including factors

regarding competence of service providers and adherence to high standards of diagnosis.

- Interpersonal Aspects (INTER-2 items): represents how service providers interact personally with patients.
- Communication (COMM-2 items): including factors related to how well the service providers communicate with patients.
- Financial Aspects (FINAN-2 items): including factors involved in paying for services.
- Time spent with doctor (TIME-2 items).
- Accessibility/Availability/and Convenience of care (AAC-4 items): including factors involved in arranging to receive services and presence of medical care resource.

Each of the 18 items is ranked on a 5-point Likert scale (Strongly Disagree = 1, Disagree = 2, Uncertain = 3, Agree = 4, Strongly Agree = 5). The questionnaire contains both positively-worded and negatively-worded items.

Procedure

Translation of the PSQ-18: The PSQ-18 was translated in to the local Hausa language using forward/backward translation methods. The tool was reviewed by a native Hausa speaking professional with expertise in Hausa language structure for checking items' structure and syntax. It was then piloted with 10 patients that have had cataract surgery at the Katsina surgical centre to ensure the feasibility of the questionnaire; i.e. clarity of questions, comprehensiveness of the questions, time needed to fill up the survey, etc. few modifications were made to the questionnaire following the pilot.

Data collection

The Researcher interviewed all patients face-to-face on one to one basis using the questionnaire. All patients were interviewed to eliminate any differences that could arise from interviewing versus self-administering the questionnaire and to ensure that no patients were excluded due to inability to read because of either literacy or vision loss. They were all interviewed at the clinic after their seventh post-operative day follow-up. No other person apart from the patient was allowed to be around during the interview. The researcher briefly described the purpose of the study for the patients and upon their verbal consent conducted the interviews. Each of the 18 questions in the PSQ-18 was administered and responses were scored using the 5-point Likert scale. All responses were recorded in the questionnaire. In addition, for each patient age, gender, marriage status, education and monthly income were recorded. To ensure better understanding of patient views, the researcher further asked the patients and recorded if they have any further comments or concerns regarding the provided services or any ideas to make it better. The researcher conducted an average of 20 interviews per day taking an average of 20 minutes per patient.

Data analysis

The researcher recoded specific items that are negatively-worded, so that all higher scores indicates greater satisfaction. Then data was entered into SPSS version 27 (IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp). Items in the same domain were grouped and added to create

Table 1: Participants Characteristics.

Variable (No. of Participants)	Total (n=200)	Daura (n=50)	Funtua (n=50)	Katsina (n=100)	P-value
Age (years)					
Mean (SD)	61.9 (12.1)	61.7 (9.3)	60.6 (9.9)	62.6 (14.2)	0.639
Range (years)	23 - 118	35 - 83	23 - 85	30 - 118	
Gender					
Male	104 (52%)	30 (60%)	26 (52%)	48 (48%)	0.382
Female	96 (48%)	20 (40%)	24 (48%)	52 (52%)	
Marital Status					
Single	20 (10%)	3 (6%)	3 (6%)	14 (14%)	<0.001
Married	137 (68.5%)	37 (74%)	31 (62%)	69 (69%)	
Divorced	20 (10%)	6 (12%)	0 (0%)	14 (14%)	
Widowed	23 (11.5%)	4 (8%)	16 (32%)	3 (3%)	
Education					
Illiterate/Primary	177 (88.5)	46 (92%)	43 (86%)	88 (88%)	0.806
Secondary School	12 (6%)	3 (6%)	3 (6%)	6 (6%)	
Diploma/Degree	7 (3.5%)	0 (0%)	3 (6%)	4 (4%)	
Masters	4 (2%)	1 (2%)	1 (2%)	2 (2%)	
Work/Job					
Farmer	175 (87.5%)	47 (94%)	33 (66%)	95 (95%)	<0.001
Retired	6 (3%)	0 (0%)	1 (2%)	5 (5%)	
Employed	18 (9%)	2 (4%)	16 (32%)	0 (0%)	
Unemployed	1 (0.5%)	1 (2%)	0 (0%)	0 (0%)	
Monthly Income					
Less than ₦5,000	99 (49.5%)	16 (32%)	22 (44%)	61 (61%)	0.004
₦5,000 – ₦50,000	88 (44%)	32 (64%)	24 (48%)	32 (32%)	
More than ₦50,000	13 (6.5%)	2 (4%)	4 (8%)	7 (7%)	

the seven domain scores for each individual. Descriptive statistics were calculated for patients' demographics, scores for the General Satisfaction, and the other domains of PSQ-18. As the sample size is relatively large, the age and the seven domains scores were presented as mean (SD). Independent samples t-test was used to compare the age and the satisfaction scores between males and females, and ANOVA, with Bonferroni post hoc analysis, was used to compare the age and the satisfaction scores between the three centers. Pearson correlation was used to test the correlations between the satisfaction subscales and the age. No other correlations between any other demographic and subscales of satisfaction was conducted as groups within the other demographics were not equally represented making the statistical analyses unfeasible (i.e. four with Masters Degree compared with 177 being illiterates). Count and percent were used to present the categorical variables and Chi-squared test, or Fisher's exact test, was used to compare categorical variables between the study groups. P value of less than 0.50 was considered significant. Themes emerging from patients' answers to the open-ended question on the services were grouped into categories based on the PSQ-18 domains.

Results

General participants' characteristics

All the selected two hundred patients participated in the study.

Out of them 104 (52%) were males. Mean age of the sample was 61.9 years (SD=12.1) and the age range was of 23 - 118 years, most of them were married (68.5%). The majority of the sample (88.5%) had no formal education or only attended primary school, and (87.5%) of them were farmers. Over 93% of the participants earn less than or equal to N50,000 (US\$120) monthly. There is statistically significant difference in the distribution of the Marital Status, Work/Job, and Monthly Income, between the centers. Funtua center seems to have less percent of "married" participants and higher percent of "widowed" than the other two centers. Moreover, it has less percent of "farmers" and higher percent of "employed" than the other two centers, while Katsina center has a higher percent of low-income (less than N5000) participants. There is no difference in age, gender, or education level between the three centers. Table 1 delineates all patients' characteristics.

PSQ-18 scores and correlations with gender, age and surgery center

The general satisfaction for all the participants was 9.7 out of the 10. The mean of the satisfaction scores across the six other domains are shown in table 2 indicating that patients were mainly satisfied on all aspects measured by the PSQ-18 except for the domain 'Time spent with doctor', which had a score of 5.25 out of 10.

Table 2: PSQ-18 Domains Comparison between the three Surgery Centers.

Subscale	Total (n=200)	Daura (n=50)	Funtua (n=50)	Katsina (n=100)	P-value
	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	
General Satisfaction (GSAT) (Out of 10)	9.7 (0.67)	9.9 (0.27)	9.2 (0.84)	9.8 (0.59)	<0.001
Technical Quality (TECH) (Out of 20)	16.1 (1.6)	16 (1.1)	15.6 (2)	16.3 (1.5)	0.03
Interpersonal Aspect (INTER) (Out of 10)	9.5 (1.2)	9.7 (0.8)	8.9 (1.5)	9.7 (1.1)	<0.001
Communication (COMM) (Out of 10)	9.6 (0.88)	9.9 (0.24)	8.9 (1.1)	9.7 (0.76)	<0.001
Financial Aspect (FINAN) (Out of 10)	9.3 (1.2)	9.7 (0.85)	8.9 (1.2)	9.3 (1.3)	0.003
Time Spent with Doctor (TIME) (Out of 10)	5.25 (1.5)	5.6 (0.88)	5.6 (1.3)	4.9 (1.7)	0.004
Access/Availability/Convenience (Out of 20)	18.1 (2)	18.1 (1.9)	17.3 (2.2)	18.5 (1.8)	0.004

Table 3: Correlations between PSQ-18 domains and Gender of the Study Participants.

Subscale	Male (n=104)	Female (n=96)	P
	Mean (SD)	Mean (SD)	
General Satisfaction (GSAT)	9.6 (0.73)	9.8 (0.58)	0.061
Technical Quality (TECH)	15.9 (1.27)	16.2 (1.81)	0.146
Interpersonal Aspect (INTER)	9.5 (1)	9.5 (1.38)	0.96
Communication (COMM)	9.4 (1)	9.8 (0.7)	0.009
Financial Aspect (FINAN)	9.2 (1.3)	9.4 (1.2)	0.182
Time Spent with Doctor (TIME)	5.2 (1.4)	5.4 (1.6)	0.345
Access/Availability/Convenience	17.8 (2.1)	18.4 (1.9)	0.02

Table 2 shows statistical significant results in all the satisfaction domains between the surgical centers. The post hoc analysis shows that the satisfaction level in Funtua center is statistically significant less than the other two centers in almost all the domains, except in the “time spent with the doctor” where the mean satisfaction score in Katsina center is statistically significant less than the other two centers.

Gender was significantly associated with two of the domains. The mean (SD) of the “communication” satisfaction score is 9.4 (1) for males compared with 9.8 (0.7) for females (p-value = 0.009), and the mean (SD) “Access/Availability/Convenience” satisfaction score for male is 17.8 (2.1) compared with 18.4 (1.9) for females. Females appear to be significantly more satisfied with these services than males even though the differences of the means are small. However, no gender difference in satisfaction regarding General Satisfaction, Technical Quality, Interpersonal Financial Aspects, and ‘Time spent with doctor’ domains (Table 3).

Age of the participants was not a determinant of satisfaction with the services as Pearson correlation coefficient was very weak and not statistically significant for any of the domains.

Patients’ concerns and suggestions

The major themes that emerge from the participants’ responses are related to patient-doctor encounter at surgical centers. Some patients expressed concern that doctors need to give them more details regarding their condition, and the post-operative care of the eye, as well as how to use the post-operative medications. Currently the doctors do not spend much time counseling patients after the surgery; but task-share other health workers to conduct limited counseling after the surgery, which seems to make the patients less

satisfied with the services. They appear to prefer the doctors spending more time providing counseling before and after the surgery.

Discussion

Satisfaction of patients that had cataract surgery within the Noor Dubai-Katsina state eye-care program was assessed in this study using the shortened version of the patient satisfaction questionnaire PSQ-18 with Hausa language translated version. Results from the study had shown that generally the patients were highly satisfied with the provided services at three surgical centers except for the domain- ‘time spent with doctor’. The high satisfaction could be because the cataract program provided free quality cataract services closer to the communities in an area hither fore with very limited access to optimal cataract services. A 2018 prevalence survey in the state had reported that the cataract surgical coverage in the state was less than 28.2%, with the good outcome of surgeries only at 38% [10]. However, previous studies [11-13] in Nigeria and India have reported high satisfaction with eye care and cataract services. Though, the level of satisfaction was not as high as reported in our study probably because they used different assessment tools or differences in the form of services provided.

The lower score in the ‘time spent with doctor’ domain is not unexpected as the surgical services are conducted as mass surgical outreach where large number patients are pooled collectively, assessed and large number of surgeries done over 2-3 days with an average of 70-80 surgeries conducted in a day. In such camps, patients do not get the detailed interactions with the doctors because of the large number of patients been handled. It is noteworthy that Katsina center with the largest number of surgeries have the lowest score in this domain. However, in such situations doctors may miss communicating critical and important aspect of patients’ condition, which may result in patients’ having inadequate understanding of their conditions and the expected post-operative care of their eyes. This could affect compliance with doctors’ recommendations in the critical post-operative care period resulting in post-operative complications.

Patient satisfaction has been identified as one of the major indicators of the effectiveness of doctor-patient communication [14]. Other outcomes that are closely related to doctor-patient communication include compliance to medications and instructions [15].

Even though patients’ satisfaction generally was high across the surgery centers, it was lower in Funtua centre for all domains except in the ‘time spent with doctor’. It is difficult to speculate the reason for

this; even the difference of the Funtua patients' characteristic with the other two centers in marital status, occupation and monthly income cannot reasonably explain this lower satisfaction in the centre. However, it is noteworthy that the Funtua service providers are the only ones not resident within the state. They visit to conduct the services every quarter. Thus they have fewer number of support staff. It cannot be ascertain if these have role in the quality of the services there. The program may have to undertake a comparative assessment of the service protocols in Funtua and the other two centers to identify the differences that can improve patients' happiness in the Funtua center.

There was no statistically significant difference in satisfaction between the genders except in 'Communication' and 'Access/Availability' domains where women seem to be more satisfied than the men, although the small mean differences puts to question if the statistical difference is real. Anyway, if the difference is real this finding may be attributed to the deliberate female gender prioritization in the eye care program. One of the targets for the eye care program was to bridge the gap in terms of access of services between men and women as the 2018 survey in the state reported higher burden of blindness and cataract in women. The odds of blindness in women was 1.3 (95% CI 1.2 to 1.3) compared with men, also females had a 20% higher odds of prevalence of cataract blindness (OR 1.2, 95% CI 1.2 to 1.3, $P < 0.005$) [10].

Because of these findings, the program prioritizes women in the community-based case finding, assessment and selection for surgery. Women were selected, examined and operated first before men. The program staff are often more courteous to the women in communication and instructions. Another possible explanation could be that in the traditional male dominated African societies like that of Katsina state, women have less access to eye care services and have higher burden of health and eye conditions, thus whenever they get the services they may be more appreciative than their men counterparts.

With the good patient satisfaction score across all domains of the assessment tool except one; and the attainment of optimal good surgical outcome in the cataract services the program should continue to maintain its laid-out service protocols. However, considering that the percentage of poor outcome in the program exceeds the WHO recommended level [2], it is necessary for the program to undertake further evaluation of cases with poor outcome to identify the possible causes towards addressing them. Poor visual outcomes after cataract surgery could be due to inappropriate selection of patients with existing co-morbidities for surgery, surgical complications or inadequate refractive correction after surgery.

Limitations

One of the major limitations of this study is the method used for data collection (Self-administered questionnaire versus interview), probably patients could have been more honest and may have expressed lower satisfaction if they were to answer the questionnaire as a self-administered anonymous questionnaire. In addition, the absence of any assessment of patient satisfaction with cataract services prior to the commencement of the current services limits the ability to compare and assert that the high satisfaction is mainly due to this service.

Conclusion

Patients that received cataract surgical services within the Noor Dubai- Katsina state eye- care program seemed to be very satisfied with the provided health care services, except for inadequate interaction and communication with the doctors. Although the services are provided in mass outreach format the program needs to improve on the contact between patients and doctors, this could be instituted at least at the post-operative period when counselling on post-operative care of the eyes is of utmost importance. In addition, the program needs to evaluate the causes of less than optimal rate of poor outcomes and address them. Furthermore, all services across the centers need to be harmonized to ensure equal level of satisfaction.

Declaration

Contributorship: MMR: Designed the study, supervise data collection and drafted the manuscript; MOT-co: Designed study and participated in drafting manuscript; BE: Collected, analyzed the data and participated in reviewing the manuscript; NM: Reviewed the manuscript; MZ: Data analysis and reviewed manuscript.

Ethical approval and permissions: The Katsina state Ministry of Health gave approval for the study and each of the participants gave a verbal approval of participation.

Funding: The whole of this research was funded by Noor Dubai Foundation Africa.

Conflict of interest: None of the authors has any conflict of interest with this work. One of the service providers was included after data collection, analysis and first draft of the manuscript to provide a provider perspective.

Acknowledgments: We wish to thank the following people for their support in the conduct of this research: Mr. Shehu Suleiman, Mr. Aminu Atiku Kankia, Dr. Abduljalil Abdullahi, Dr. Ahmed Hamza, Dr. Ado Abdul, Dr. Halima Abdurrahman, Dr. Adamu Muhammed, Dr. Murtala Muhammed and Mr. Aminu Elladan.

Data sharing: Study data is stored in the computer of Noor Dubai Foundation Africa, Katsina Nigeria. Data is available for sharing.

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