



## **Study on impact of 'Quality Assurance Program' on surgical patient satisfaction in a multispecialty government hospital of Uttar Pradesh**

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### **ABSTRACT**

*Patient satisfaction has always been a very important tool to measure the quality of patient care in both government and private sector. Here the study has been carried out in a multispecialty government hospital to assess the impact of National Quality Assurance Standards (NQAS) certification on surgical patient satisfaction and the number of surgeries. It was found that there is a positive impact on patient satisfaction on NQAS implementation but number of surgeries is independent of the implementation of NQAS certification and patient satisfaction.*

**Key words:** NQAS, Quality Assurance, RCA, CAPA, Patient satisfaction

Received 26.02.2022

Revised 25.03.2022

Accepted 23.04.2022

### **INTRODUCTION**

Patient satisfaction is defined as the extent to which patients are happy with their healthcare, both inside and outside of the doctor's office. A measure of care quality, patient satisfaction provides insights into various aspects of their health care, including the effectiveness of their care and their level of empathy. The goal behind capturing the patient satisfaction was to establish a patient-driven, responsive and accountable healthcare system, empower the patient party to make informed decisions while choosing a health facility, establish an environment of healthy competition among healthcare providers to provide better quality services [1]. The National Quality Assurance Standards (NQAS) were launched in 2013 with an aim to improve the quality of care in public health facilities in India. Its standards are ISQUA Accredited. Quality framework incorporated within NQAS is based on "Donabedian" model, which classifies quality of care into three components i.e. structure, process, and outcome. Quality assurance program was introduced in public health to enhance patient satisfaction level amongst the population and to rebuild the trust [2]. In India, we have a three-tier healthcare system i.e., primary, secondary and tertiary healthcare. Tertiary healthcare comprises of district hospitals and medical colleges. District hospitals serve as first referral units for the population. Present study was carried out in a 156 bedded government multispecialty district hospital for a period of one year from January 2019 to December 2019. The hospital has well equipped five operation theatres. Various types of surgeries are carried out there i.e. orthopedic surgeries, general surgery etc. Periodical OT surveillance activities are carried in the hospital along with infection control activities. These initiatives have been implemented as a result of QA activities started by the government of India [3]. The aim of this study was to evaluate the relationship between NQAS certification and surgical patient satisfaction and number of surgeries. The hospital has got accredited by NQAS in August, 2019 with 89.6% through national assessment.

### **MATERIAL AND METHODS**

In the present study secondary data on surgical patient satisfaction along with total number of surgeries has been collected from a multispecialty government hospital through random sampling methods with close ended questionnaire on monthly basis for a period of one year (2019). The yearly data were grouped in to 4 quarters as Q1, Q2, Q3 and Q4. Feedback form of surgical patients of entire year of 2019 was analyzed against 9 attributes of clinical care. These attributes were 1. Regularity of doctor's attention towards patients 2. Attitude and communication of doctors towards patient [3]. Time spent for

examination of patient and counseling by doctors [4]. Promptness in response by nurses in the ward [5]. Attitude and communication of nurses with patient 6. Patient's perception of doctor's knowledge [7]. Patient's overall satisfaction during the treatment as patient 8. Overall satisfaction of surgical patient and 9. Total surgery and satisfaction percentage. The feedback satisfaction score and satisfaction percentage were calculated and tabulated. The satisfaction score ranges from a scale of 1 to 5, with 1 as poor, 2 as fair, 3 as good, 4 as very good and 5 as excellent. Analysis has been done by recording the score of satisfaction rate and satisfaction percentage of each attributes of the IPD feedback form for surgical patients. The final conclusion was drawn on the basis of tabulated data of satisfaction rate and satisfaction percentage. The score rate was calculated by taking the average of total sample size (i.e. sum of score of each patient/total number of patient). Satisfaction percentage was calculated by sum of score/total score X 100 [6].

## RESULTS

Feedback form of surgical patients of entire year of 2019 was analyzed against 9 attributes of clinical care.

In the first attribute i.e. regularity of doctor's attention towards patients, it was found that in first quarter satisfaction score was in the range of 3.10 to 3.70, while in second quarter it ranged from 3.70 to 3.83, in third quarter 3.83 to 3.93 and in fourth quarter it was between 4.03 to 4.13. Similarly, satisfaction percentage in first quarter ranged between 62.00-74.00, while in second quarter it ranged between 74.00 to 76.67, in third quarter 76.67 to 78.67 and in fourth quarter it was between 80.67 to 82.67 (Table 1). It is evident from the table 1 that satisfaction score and satisfaction percentage gradually increased. After accreditation in the month of August, satisfaction score and satisfaction percentage was further increased as doctors were motivated for being more attentive through repeated various committee's meetings and trainings. Corrective and preventive actions were also taken to get more output.

**Table 1. Regularity of doctor's attention towards patients**

Regularity of doctor's attention towards patients			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.30	66.00
February		3.10	62.00
March		3.70	74.00
April	Q2	3.70	74.00
May		3.77	75.33
June		3.83	76.67
July	Q3	3.83	76.67
August		3.90	78.00
September		3.93	78.67
October	Q4	4.03	80.67
November		4.13	82.67
December		4.13	82.67

In the second attribute i.e. attitude and communication of doctors towards patient, it was found that in first quarter satisfaction score was in the range of 3.40 to 3.53, while in second quarter it ranged from 3.53 to 3.63, in third quarter 3.63 to 3.70 and in fourth quarter it was between 3.77 to 3.97. Similarly, satisfaction percentage in first quarter ranged between 68.00-70.67, while in second quarter it ranged between 70.67 to 72.67, in third quarter 72.67 to 74.00 and in fourth quarter it was between 75.33 to 79.33. Table 2 shows a gradual increase in doctor's attitude in each quarter which was a result of implementation of QA activities. Doctors behavior still need more improvement as that is the foundation for any treatment and their attitude towards patient still needs more care and concern.

In the third attribute i.e. time spent for examination of patient and counseling by doctors, it was found that in first quarter satisfaction score was in the range of 3.27 to 3.57, while in second quarter it ranged from 3.27 to 3.33, in third quarter 3.37 to 3.40 and in fourth quarter it was between 3.40 to 3.53. Similarly, satisfaction percentage in first quarter ranged between 65.33-71.33, while in second quarter it ranged between 66.00 to 66.67, in third quarter 67.33 to 68.00 and in fourth quarter it was between 68.00 to 70.67. Table 3 shows the satisfaction on counseling time spent with patient plays a very important role in overall satisfaction rate. The ongoing trend shows there is much need to work on the above attribute though nurse's orientation at Quality Improvement Team (QIT) meetings so that they can

proactively counsel the patients with their friendly behavior in order to get appreciation to reach the excellence.

**Table2. Attitude and communication of doctors towards patient**

Attitude and communication of doctors towards patient			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.40	68.00
February		3.40	68.00
March		3.53	70.67
April	Q2	3.53	70.67
May		3.53	70.67
June		3.63	72.67
July	Q3	3.63	72.67
August		3.67	73.33
September		3.70	74.00
October	Q4	3.77	75.33
November		3.97	79.33
December		3.97	79.33

**Table3. Time spent for examination of patient and counseling by doctors**

Time spent for examination of patient and counseling by doctors			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.47	69.33
February		3.57	71.33
March		3.27	65.33
April	Q2	3.27	65.33
May		3.30	66.00
June		3.33	66.67
July	Q3	3.37	67.33
August		3.40	68.00
September		3.40	68.00
October	Q4	3.40	68.00
November		3.43	68.67
December		3.53	70.67

In the fourth attribute i.e. promptness by nurses in the ward, it was found that in first quarter satisfaction score was in the range of 3.20 to 3.63, while in second quarter it ranged from 3.67 to 3.70, in third quarter 3.73 to 3.80 and in fourth quarter it was between 3.87 to 3.97. Similarly, satisfaction percentage in first quarter ranged between 64.00-72.67, while in second quarter it ranged between 73.33 to 74.00, in third quarter 74.67 to 76.00 and in fourth quarter it was between 77.33 to 79.33. Table 4 shows that there is a continuous increase in the response on nurses promptness for surgical patients which is a good remark in improving the quality of care as nurses are the backbone of any health facility.

**Table 4. Promptness by nurses in the ward**

Promptness by nurses in the ward			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.20	64.00
February		3.43	68.67
March		3.63	72.67
April	Q2	3.67	73.33
May		3.67	73.33
June		3.70	74.00
July	Q3	3.73	74.67
August		3.73	74.67
September		3.80	76.00
October	Q4	3.87	77.33
November		3.87	77.33
December		3.97	79.33

In the fifth attribute i.e. attitude and communication of nurses with patient, it was found that in first quarter satisfaction score was in the range of 3.30 to 3.67, while in second quarter it ranged from 3.43 to 3.50, in third quarter 3.53 to 3.67 and in fourth quarter it was between 3.73 to 4.13. Similarly, satisfaction percentage in first quarter ranged between 66.00-73.33, while in second quarter it ranged between 68.67 to 70.00, in third quarter 70.67 to 73.33 and in fourth quarter it was between 74.67 to 82.67. Table 5 shows that communication of nurses with patient attitude and communication increased with the initiation of QI activities and it increases further in the last quarter.

**Table 5. Attitude and communication of nurses with patient**

Attitude and communication of nurses with patient			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.50	70.00
February		3.67	73.33
March		3.30	66.00
April	Q2	3.43	68.67
May		3.47	69.33
June		3.50	70.00
July	Q3	3.53	70.67
August		3.60	72.00
September		3.67	73.33
October	Q4	3.73	74.67
November		3.90	78.00
December		4.13	82.67

In the sixth attribute i.e. patient's perception of doctor's knowledge, it was found that in first quarter satisfaction score was in the range of 3.33 to 3.47, while in second quarter it ranged from 3.60 to 3.73, in third quarter 3.77 to 3.80 and in fourth quarter it was between 3.80 to 4.10. Similarly, satisfaction percentage in first quarter ranged between 66.67-69.33, while in second quarter it ranged between 72.00 to 74.67, in third quarter 75.33 to 76.00 and in fourth quarter it was between 76.00 to 82.00 (Table 6). The data shows that the patient's perception towards doctor's knowledge is very good and the satisfaction level on this attribute is increasing repeatedly leading to an improvement in quality of care.

**Table 6. Patient's perception towards doctor's knowledge**

Patient's perception towards doctor's knowledge			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.33	66.67
February		3.37	67.33
March		3.47	69.33
April	Q2	3.60	72.00
May		3.63	72.67
June		3.73	74.67
July	Q3	3.77	75.33
August		3.77	75.33
September		3.80	76.00
October	Q4	3.80	76.00
November		3.87	77.33
December		4.10	82.00

In the seventh attribute i.e. patient's overall satisfaction during the treatment as patient, it was found that in first quarter satisfaction score was in the range of 3.33 to 3.47, while in second quarter it ranged from 3.57 to 3.73, in third quarter 3.80 to 3.87 and in fourth quarter it was between 3.97 to 4.17. Similarly, satisfaction percentage in first quarter ranged between 66.67-69.33, while in second quarter it ranged between 71.33 to 74.67, in third quarter 76.00 to 77.33 and in fourth quarter it was between 79.33 to 83.33 (Table 7). The data show an increase in overall satisfaction rate in each quarter which is a result of individual patients feedback of quality of services and care received.

**Table 7. Patient's overall satisfaction during the treatment as patient**

Patient's overall satisfaction during the treatment as patient			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.33	66.67
February		3.33	66.67
March		3.47	69.33
April	Q2	3.57	71.33
May		3.63	72.67
June		3.73	74.67
July	Q3	3.80	76.00
August		3.87	77.33
September		3.87	77.33
October	Q4	3.97	79.33
November		4.03	80.67
December		4.17	83.33

In the eighth attribute i.e. overall satisfaction of surgical patient, it was found that in first quarter satisfaction score was in the range of 3.29 to 3.49, while in second quarter it ranged from 3.51 to 3.54, in third quarter 3.55 to 3.56 and in fourth quarter it was between 3.62 to 3.66. Similarly, satisfaction percentage in first quarter ranged between 64.40-68.90, while in second quarter it ranged between 69.97 to 70.97, in third quarter 71.33 to 71.87 and in fourth quarter it was between 72.80 to 74.33 (Table 8). The data on overall satisfaction of surgical patient shows that there is considerable increase and sustenance too in the overall percentage in each quarter of the year and it was comprising of all attributes, which includes other attributes also viz. registration, diagnostics, discharge process, cleanliness, toilet facilities, clinical staff's behavior and attitude, round the clock availability of nurses and ward boys, dietary services, availability of drugs etc.

**Table 8. Overall satisfaction of surgical patient**

Overall satisfaction of surgical patient			
Month, 2019	Quarter	Satisfaction score	Satisfaction percentage
January	Q1	3.29	65.13
February		3.35	64.40
March		3.49	68.90
April	Q2	3.51	69.97
May		3.51	70.57
June		3.54	70.97
July	Q3	3.55	71.33
August		3.55	71.57
September		3.56	71.87
October	Q4	3.62	72.80
November		3.63	73.30
December		3.66	74.33

In the ninth attribute i.e. total surgery and satisfaction percentage, it was found that the number of surgeries were higher up to April and then decrease from May to July and again rise August with rising trend up to December. This may be due to summer months when people avoid surgeries and again start surgeries from August. The satisfaction percentage was found between 64.40 to 74.33 during the year i.e. about 10 per cent increase in a year (Table 9). It is found that there is no relation between number of surgeries and NQAS certification and surgeries and patient satisfaction too as there is no gradual increase in number of surgeries post NQAS in the last quarter too.

**Table 9. Total surgery and satisfaction percentage**

Total surgery and satisfaction percentage			
Month, 2019	Quarter	Total surgery	Satisfaction percentage
January	Q1	609	65.13
February		534	64.40
March		728	68.90
April	Q2	613	69.97
May		306	70.57
June		301	70.97
July	Q3	291	71.33
August		328	71.57
September		404	71.87
October	Q4	378	72.80
November		463	73.30
December		597	74.33

## DISCUSSION

These nine attributes studied viz. regularity of doctor's attention towards patients, attitude and communication of doctors towards patient, time spent for examination of patient and counseling by doctors, promptness in response by nurses in the ward, attitude and communication of nurses with patient, patient's perception of doctor's knowledge, patient's overall satisfaction during the treatment as patient, overall satisfaction of surgical patient and total surgery and satisfaction percentage show that there is considerable increase in the overall level of satisfaction of patients before and after NQAS though there are still chances of further improvements. Similar findings were reported by Kumar (2016) which states that the functioning of health facilities that are deemed to be providing services in compliance of NQAS standards, as compared to facilities that are yet to improve shows differences in care, patient satisfaction, and service uptake [4].

Result shows improvement in behavior and attitude of doctors and nurses with NQAS implementation in each quarter (Table 1, 2 and 5). The operational guideline on quality assurance states that patient satisfaction is more concerned about facility based care and services leading to minimal waiting time, good behaviour by service providers, privacy and confidentiality, grievance redress land access to information and involvement in decision making for the care which is the main motto for implementation of such programs. It also states that patient feedbacks are analysed, and then root-cause analysis is done. The facility prepares the action plans for the low performing attributes for patients [3].

In an another study on patient satisfaction by Deka *et al* [4] suggests that assessing satisfaction of patients is simple and cost effective way for evaluation of hospital services and show excellent level of satisfaction for nurses and doctors behavior. It too emphasize upon the importance of cleanliness and hygiene in public health facilities and show the need of the programmes like NQAS, Kayakalp and LaQshya for quality improvement, which is clearly visible from our studies too as in case of attitudes regularity of doctor's attention towards patients, attitude and communication of doctors towards patient, time spent for examination of patient and counseling by doctors, promptness in response by nurses in the ward, attitude and communication of nurses with patient [4].

NQAS standards for public health facility 2020 describes that NQAS has eight areas of concern in each department for overall quality improvement Those are service provision, patient rights, inputs, support services, clinical services, infection control and quality management along with the capturing of outcome indicators to get to the quality in terms of structure process and outcome (Anonymous,2020). Our study on clinical care also reflects the same result as the nine attributes of clinical care improve the satisfaction score and satisfaction percentage [5].

In the present studies it is found that there is no relation between number of surgeries and NQAS certification and surgeries and patient satisfaction too as there is no gradual increase in number of surgeries post NQAS in the last quarter too. This variation in number in different months may be due to seasonal effect. However, the satisfaction percentage was found satisfactory. Therefore it can be said that there is a positive impact on patient satisfaction on NQAS implementation but number of surgeries is independent of the implementation of NQAS certification and patient satisfaction [6].

## CONCLUSION

From the above study it is concluded that implementation of NQAS leads to increase in patient satisfaction leading to improvement in quality of care but NQAS accreditation has no relation with increase in number of surgeries in public health facility in government multispecialty hospital.

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## CITATION OF THIS ARTICLE

Kopal and A Rauthan· Study on impact of 'Quality Assurance Program' on surgical patient satisfaction in a multispecialty government hospital of Uttar Pradesh. *Bull. Env. Pharmacol. Life Sci.*, Spl Issue [1] 2022 : 1509-1515