

Original Research Article

Validated pre-discharge survey of patient satisfaction in orthopaedic care

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ABSTRACT

Background: Worldwide, increasing concern has been given to the assessment of patient satisfaction survey as a method of monitor of the quality of health care provision in the health institutions. The study aimed to assess the level of patient satisfaction with preoperative and postoperative surgical services and its associated factors. Study includes Experience of 17 questionnaires.

Methods: A total of 507 indoor patients were taken on a random basis full filing the inclusion and exclusion criteria, over a period of 1 year from December 2017 to January 2018. Firstly, we applied Cronbach's alpha to know the reliability of survey questionnaire, then we collected the final data. Association between two non-parametric variables was seen using Pearson's chi-square test. A p value of less than 0.05 was taken as statistically significant. Data was analysed using SPSS 21.0.

Results: Patients with good satisfaction rates were 60.2%. We found that males are more satisfied then females with Pearson Chi-square value=8.033, df=1, p value=0.005. Patients with age of above 80 years and between age group of 21-40 years have comparatively lower satisfaction rates with Pearson Chi-square value=33.265, df=4, P value=0.000.

Conclusions: Assessing patients' satisfaction rates can be a simple and cost effective technique for evaluating the services provided by health care providers and institutions and should be conducted periodically to detect carelessness and bring about overall improvement in the quality of care provided. This should be generalised and universally accepted.

Keywords: Orthopaedic survey, Satisfaction, Questionnaire

INTRODUCTION

Patient satisfaction is significant area of any health care structure. Measurement of patient satisfaction is difficult to measure. Patient satisfaction is dependent on both the clinical and non-clinical outcomes of care provided. Patient satisfaction is the main indicators of patient experience about health care system and quality of care given.^{1,2} The survey of patients depend upon their social status, economic status and their perceptions; some patients may be happy with average services, while some

may never be satisfied even with the best care. Patient satisfaction is calculated by difference between expectations of the patients in health care system and what is actually received during the process of care. Assessing patient satisfaction gives them an opportunity, which can make health services more reactive to patient's requirements and expectations. Patient's satisfaction survey is necessary to identify problems and the need to be resolved in improving the health facilities. Traditionally, the medical profession was expected to maintain high quality of standards in the hospitals. In

general, the quality was defined by the clinicians in terms of technical delivery of medical care. However, it appears that infrastructure and attitudes require to be improved significantly in the public-sector hospitals to meet the consumer's expectations. A hospital is a place for the definition and treatment of human illnesses and restoration of health and wellbeing of those temporarily deprived of these. A modern hospital has become a highly scientific and complex medical institution from its age-old concept of a poor house where people left their incurable and dying members. This study was done to assess the satisfaction with care given and its associated factors among the admitted patients of our medical college hospital/getting surgical treatment.

METHODS

Study design

The present study was conducted on indoor patients of Orthopaedic Department of Hospital in Central India (Sri Aurobindo Institute Of Medical Sciences and Post-graduate Institute, Indore). It was done over a period of 1 year from December 2017 to January 2018. A total of 507 indoor patients were taken on a random basis full filing the inclusion and exclusion criteria.

Inclusion criteria

All patients above 12 years (minor-major, outpatient-inpatient, elective-emergency), who got operated in hospital during the study period were included.

Exclusion criteria

Patients who operated under local anaesthesia at OPD level, patients below 12 years old, patients who cannot communicate and unconscious after operation during survey were excluded.

The patients had been operated for different orthopaedic surgery procedures. The patients were asked to fill up a questionnaire just before they were discharged.

The method for measuring patient satisfaction includes qualitative and quantitative approaches. Qualitative methods: patient feedback program, work team, quality circles, managerial observation. Quantitative methods: comment cards, personal interview patient survey, self-administered patient surveys, telephone surveys, mystery shoppers. In this study we have included patient feedback program with add on comments. So we included both quantitative and qualitative methods.

Following questionnaire/parameters were considered to test the level of satisfaction among the indoor patients such as doctor, nursing staff towards patients, nursing staff towards attenders, ward arrangements, food, pre anesthetic check-up, investigations, operation theatre, charges, dressing care, cleanliness ward, cleanliness

hospital, class four staff- ward boy, sweeper, physiotherapy, billing counter, emergency, outpatient department.

Patients were also asked if they had any specific complaints or recommendations regarding their stay in the hospital. These were noted down and acted upon after discussion. This therefore allowed us to make an assessment of current patient experience and identify deficiencies in care that could be addressed during subsequent improvement cycles. We have taken the sample of those patients who encountered all the above mentioned levels for assessment of satisfaction survey.

During the baseline period the scores in the majority of good and average. However, some points of poor performance were identified; mainly three specific areas such as billing counter, emergency, dressing care.

Ethical considerations

Ethical clearance obtained from the affiliated institutional ethical and research committee. Official permission letter obtained from affiliated institution, hospital. Oral informed consent was obtained from each study patient after explanation of what they will take part in the survey and any involvement was after their complete consent. Anyone not willing to participate in the study has full right not to participate. Confidentiality was guaranteed from all the records collectors and agents by avoiding personal identification on the questionnaire and keeping questionnaires locked and secured.

Statistical analysis

Data was analysed using SPSS 21.0. First we collected 50 patients survey forms and we applied Cronbach's alpha to know the reliability of survey questionnaire and was found to be 0.897 (Table 1) which indicated that the Internal consistency of questionnaire is good ($0.9 > \alpha \geq 0.8$), then we collected the final data. After that data was collected in customized proforma. Association between two non-parametric variables was seen using Pearson's chi-square test. A p value of less than 0.05 was taken as statistically significant.

RESULTS

A total of 507 indoor patients were taken on a random basis full filing the inclusion and exclusion criteria, over a period of 1 year. Patients with good satisfaction rates were 60.2%. We found that males are more satisfied than females. Patients with age of above 80 years and between age group of 21-40 years have comparatively lower satisfaction rates.

In the present study, there was predominance of 265 (52.3%) participants present in age group of 21-40 years (Table 2).

Table 1: Cronbach's alpha to know the reliability of survey questionnaire.

Questionnaire/parameter	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Doctor behavior	31.90	66.867	0.555	0.645	0.884
Nursing staff towards pt	32.06	67.609	0.446	0.760	0.887
Nursing staff towards attenders	32.26	65.543	0.543	0.654	0.884
Ward arrangements	32.40	63.837	0.664	0.626	0.880
Food	32.48	63.602	0.686	0.778	0.879
Pac	32.54	63.356	0.563	0.680	0.883
Investigations	32.58	64.289	0.532	0.557	0.884
OT	32.52	62.744	0.550	0.546	0.883
Charges	32.96	61.590	0.555	0.450	0.884
Dressing care	32.50	62.418	0.536	0.499	0.884
Cleanliness ward	32.10	65.765	0.621	0.685	0.882
Cleanliness hospital	32.06	66.058	0.490	0.678	0.885
Class 4 staff	32.52	64.091	0.593	0.654	0.882
Physiotherapy	32.20	65.265	0.481	0.547	0.885
Billing counter	32.96	63.223	0.540	0.549	0.883
Emergency	32.56	62.986	0.522	0.605	0.884
OPD	32.44	63.802	0.439	0.522	0.888

Table 2: Distribution of participants according to age.

Age group (years)	Number	Percentage (%)
12-20	61	12.0
21-40	265	52.3
41-60	141	27.8
61-80	20	3.9
>80	20	3.9
Total	507	100.0

Table 3: Distribution of participants according to sex.

Sex	Number	Percentage (%)
Female	262	51.7
Male	245	48.3
Total	507	100.0

Table 4: Distribution of participants according to score.

Score	Number	Percentage (%)
Poor (0-17)	0	0.0
Average (18-34)	202	39.8
Good (35-51)	305	60.2
Total	507	100.0

There were more females as compared to males in the study population, showing a female preponderance in the study (Table 3).

Now, distribution according to responses given for each parameter/questionnaire are described as follows: For the parameter "Doctor's behavior", 285 (56.2%) participants gave 2, while 222 (43.8%) participants gave 3. For the parameter "nursing staff towards patient", 285 (56.2%) participants gave 2, while 222 (43.8%) participants gave 3. For the parameter "nursing staff towards attenders", 81 (16.0%) participants gave 1, 254 (50.1%) participants gave 2, while 172 (33.9%) participants gave 3. For the parameter "ward arrangements", 50 (9.9%) participants gave 1, 245 (48.3%) participants gave 2, while 212 (41.8%) participants gave 3. For the parameter "food", 110 (21.7%) participants gave 1, 265 (52.3%) participants gave 2, while 132 (26.0%) participants gave 3. For the parameter "PAC", 10 (2.0%) participants gave 0, 60 (11.8%) participants gave 1, 266 (52.5%) participants gave 2, while 171 (33.7%) participants gave 3. For the parameter "Investigations", 30 (5.9%) participants gave 0, 122 (24.1%) participants gave 1, 244 (48.1%) participants gave 2, while 111 (21.9%) participants gave 3. For the parameter "operation theatre", 51 (10.1%) participants gave 0, 101 (19.9%) participants gave 1, 193 (38.1%) participants gave 2, while 162 (32.0%) participants gave 3. For the parameter "charges", 30 (5.9%) participants gave 0, 71 (14.0%) participants gave 1, 216 (42.6%) participants gave 2, while 190 (37.5%) participants gave 3. For the parameter "dressing care", 81 (16.0%) participants gave 0, 30 (5.9%) participants gave 1, 235 (46.4%) participants gave 2, while 161 (31.8%) participants gave 3. For the parameter "cleanliness ward", 30 (5.9%) participants gave 1, 274 (54.0%) participants gave 2, while 203 (40.0%) participants gave 3. For the parameter "cleanliness hospital", 10 (2.0%) participants gave 0, 20 (3.9%) participants gave 1, 215 (42.4%)

participants gave 2, while 262 (51.7%) participants gave 3. For the parameter “class IV staff”, 50 (9.9%) participants gave 1, 256 (50.5%) participants gave 2, while 201 (39.6%) participants gave 3.

For the parameter “physiotherapy”, 11 (2.2%) participants gave 0, 30 (5.9%) participants gave 1, 234 (46.2%) participants gave 2, while 232 (45.8%) participants gave 3. For the parameter “billing counter”, 60 (11.8%) participants gave 0, 197 (38.9%) participants gave 1, 170 (33.5%) participants gave 2, while 80 (15.8%) participants gave 3. For the parameter “emergency”, 50 (9.9%) participants gave 0, 30 (5.9%) participants gave 1, 277 (54.6%) participants gave 2, while 150 (29.6%) participants gave 3.

For the parameter “OPD”, 40 (7.9%) participants gave 0, 10 (2.0%) participants gave 1, 212 (41.8%) participants gave 2, while 245 (48.3%) participants gave 3.

202 (39.8%) participants gave average score, while 305 (60.2%) participants gave good score. Majority of the participants gave good score (Table 4).

There was a statistically significant association seen between age and the score ($p < 0.05$), showing that the scores are dependent on the age of the participants. The younger age group gave good score, while the age more than 60 years gave average scores (Table 5).

Table 5: Association between age and the score.

Age group (years)	Score			Total N (%)
	Poor N (%)	Average N (%)	Good N (%)	
12-20	0 (0.0)	21 (34.4)	40 (65.6)	61 (100.0)
21-40	0 (0.0)	101 (38.1)	164 (61.9)	265 (100.0)
41-60	0 (0.0)	50 (35.5)	91 (64.5)	141 (100.0)
61-80	0 (0.0)	20 (100.0)	0 (0.0)	20 (100.0)
>80	0 (0.0)	10 (50.0)	10 (50.0)	20 (100.0)
Total	0 (0.0)	202 (39.8)	305 (60.2)	507 (100.0)

Pearson chi-square value=33.265, df=4, p value=0.000, significant.

Table 6: Association between sex and the score.

Sex	Score			Total N (%)
	Poor N (%)	Average N (%)	Good N (%)	
Female	0 (0.0)	120 (45.8)	142 (54.2)	262 (100.0)
Male	0 (0.0)	82 (33.5)	163 (66.5)	245 (100.0)
Total	0 (0.0)	202 (39.8)	305 (60.2)	507 (100.0)

Pearson Chi-square value=8.033, df=1, p value=0.005, significant.

There was also a statistically significant association seen between sex and the score ($p < 0.05$), showing that the scores are dependent on the sex of the participants.

Higher percentage of male gender gave good score in comparison to the females, while higher percentage of females gave average score in comparison to the males (Table 6).

DISCUSSION

This study revealed that the level of patient satisfaction with the perioperative surgical services was 60.2% in good category. This finding was high when compared with the other studies conducted in our country and in the world.^{2,3} This discrepancy could be due to the difference in patient perception and quality of the services provided and study protocol. In this study, from the outpatient department and inpatient department, the adequacy of physicians’ and nurses’ information about the nature of your problem. Doctor’s behaviour and overall work, the satisfaction rates were high. These degrees of

dissatisfactions when calculated were low compared with a previous study conducted in University Specialized hospital.² Average satisfaction in nursing staff and operation theatre could be due to staffs might be very busy with different activities which reduce the attention for patient’s complaints. In the present study, the major areas of patient dissatisfaction in the postoperative patient management in the wards were; Nurse information about the importance of investigations, the adequacy of information provided by ward nurses about the medications.⁴ Surgically treated patients were moderately satisfied with nursing care in orthopaedic wards and were more satisfied with nurses’ technique in going about their work but were poorly satisfied with the extent of time nurses spent with patients.⁵ Perioperative discomforts and ward nursing care were the important factors that affected patient satisfaction negatively.⁶ Similarly patient satisfaction with perioperative service is another situation where satisfaction is affected by number of factors, Patients may choose a different health care centres and consulting doctors depending on their anticipation and satisfaction with the care provided by them.⁷ For the

parameter billing counter, 60 (11.8%) participants gave 0, for the parameter emergency, 50 (9.9%) participants gave 0, for the parameter dressing care, 81 (16.0%) participants gave 0, these areas proved to be with low satisfaction rates. The cleanliness of the ward or beds was good, the adequacy of food and water supply was satisfactory, costs for you 36 (13.4%). These findings were low compared with previous studies that might be due to a difference in patient characteristics that attributed to perceived satisfaction variation.^{2,3,8} In this study, information provision on the risk of postoperative different complications and treatment options caused patient dissatisfaction in the areas of information provided by health professionals about the risk of depression. A study conducted on determinants of patient satisfaction in surgical ward at a University Hospital in Saudi Arabia showed that reason of a responsible physician for operation in the emergency department, physician's reception in the clinic, surgical team reception in the ward, response of the team about the patient's queries and protection level in the hospital affected patient satisfaction positively. On other hand waiting time in the emergency, waiting time in the OPD, the response of consulting physicians from other departments, clarification of the surgical team about the life style after operation and the quality of food in the hospital affected patient satisfaction negatively.⁹ Information provision before and after treatments are crucial for patient satisfaction with health services rendered.¹⁰ Another improvement program was undertaken at the James Cook University Hospital, Middlesbrough and the Friarage Hospital, Northallerton for the South Tees NHS Trust in 2015 and showed that improving staff awareness and engagement with patient experience, improving staff and patient communication and ensuring patients were aware of plans for their own care helps in improving of patient satisfaction rates overall.¹¹

A study done in Brigham on patient satisfaction in a tertiary teaching hospital preoperative clinics showed that assessment of patient load and clinic service delivery system led to alterations in the medical service processes that resulted in continued high clinical effectiveness, reduced waiting time, and improved patient satisfaction.¹² Another study showed that postoperative pain, waiting time for surgery and patient changing room conditions were the most important factors influencing patient satisfaction.¹³ A study held in a hospital in Nigeria depicted that patient provider relationship, inpatient services, hospital facilities and access to care increases the patient satisfaction positively whereas waiting time, cost, delayed appointment, missing investigation results and folders decreases patient satisfaction.¹⁴ Recent directives are increasing emphasis on good patient experience as a centre element.¹⁵ Another study in Tanzania at the Muhimbili National Hospital reported that patients were particularly dissatisfied with long waiting before receiving health care services, the high costs of treatment and investigations charged at hospital,

poor levels of hygiene in the wards, and negative attitudes of staff towards patients.¹⁶ In Japan study, Satisfied patients are an important asset for the healthcare provider as they intend to reuse the service and to recommend it to their families and friends. Both foreign and Japanese providers should adopt a consumer perspective to enhance the service quality and then to maintain long-term relationships with their patients.¹⁷ Study in general acute care hospitals in the USA, concluded that most determinants of patient satisfaction was related to communication, empathy and caring from hospital personnel.¹⁸

CONCLUSION

Patient experience and satisfaction rates throughout the treatment process can be improved by the use of patient satisfaction surveys. Using this survey we have achieved sustained levels of patient experience and satisfaction rates in health care system. Direct and indirect interaction with the patient during their care and treatment process helps to get them involved and offers the opportunity for them to raise and know concerns which can be addressed promptly, indirectly helping to reduce complaints and improve satisfaction rates, ultimately improving the quality of health care. The survey we have described is generic and suitable for adoption in a variety of in-patient and out-patient settings across a range of specialties among nursing homes to big multi-specialties centre. Due to its success the survey has now been adopted in all clinical areas within our trust, with central co-ordination to facilitate wide sampling of patient experience data and quality of health care. Although the satisfaction level of physician domains was high. Management needs to improve on the comfort provided in the wards, billing counter services, emergency facilities, nursing staff working, wound dressings and communication skills in order to increase the quality of care provided. The study shows that assessing patients' satisfaction can be a simple and cost effective technique for evaluating the services provided by health care providers and institutions and should be conducted periodically to detect carelessness and bring about overall improvement in the quality of care provided. The primary strength of the study is involvement of physicians and proper information to patients from wide medical and surgical disciplines from premier institutes of India in designing the satisfaction scale of survey.

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