



Original Research Article

Patients satisfaction from hospital services in 2019

Vivek K. Pande¹, Shilpa Kuthe¹, Jayadeep Nayse², R Kshirsagar^{1,*},
Manisha Choudhary³, Jaya Awale³

¹Dept. of Medicine, NKP Salve Institute of Medical Sciences & Research Centre & Lata Mangeshkar Hospital, Digdoh Hills, Hingna Road, Nagpur, Maharashtra, India

²Dept. of Community Medicine, NKP Salve Institute of Medical Sciences & Research Centre & Lata Mangeshkar Hospital, Digdoh Hills, Hingna Road, Nagpur, Maharashtra, India

³NKP Salve Institute of Medical Sciences & Research Centre & Lata Mangeshkar Hospital, Digdoh Hills, Hingna Road, Nagpur, Maharashtra, India



ARTICLE INFO

Article history:

Received 14-03-2021

Accepted 30-07-2021

Available online 24-11-2021

Keywords:

Behavior

Cleanliness

Expectation

Hospital services

Questionnaire

Satisfaction

ABSTRACT

Background: Evolution of Hospitals has occurred from being an isolated sanatorium to a hospital with five star facilities. Expectations of patient and their relatives have increased manifold due to improved socio-economic status and education level of society. Therefore satisfaction levels of patients and their relatives, is an important indicator of performance of hospital.

Objectives: This study was conducted to evaluate satisfaction among admitted patients of clinical departments of tertiary care hospital in central India, during calendar year 2019.

Materials and Methods: This was cross-sectional study, started after obtaining permission from Institutional Ethics committee of Medical College in Central India. 3004 patients and their relatives, who were willing to participate in study, were requested to reply to 20 questions about health care services (Ten clinical and Ten non clinical questions); 20 pre validated, pre-tested, easy to understand questions were used in this hospital in 2019, and questions were translated in local language Hindi and Marathi, as per standard protocol. All included respondents were interviewed at time of discharge and were requested to reply to 20 questions.

Results & Interpretation & Conclusions: Data of satisfaction level was analyzed using t-Test [unpaired]. Mean score in % of satisfaction in Ten Non clinical parameter was 82.49% with S.D. 10.07% and in clinical parameters was 97.45% with S.D. 0.90%. This difference is statistically significant (P-value <0.001). This study showed that patients were more satisfied with performance of clinical staff as compared to non-clinical staff.

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Introduction

Majority of hospital are attempting to get empanelled with various insurance companies and empanelment agencies, to increase quantum of patients getting treatment on cashless/reimbursement basis in their hospital but such empanelment requires NABH [national accreditation board

for hospital] accreditation. As per NABH rules, point-63 of checklist of quality indicator for NABH accreditation, which includes record of patient's satisfaction in hospital documents to be checked by inspectors of NABH. With inclusion of health care services under consumer protection act [1986], amended in 2019, in India, hospitals have started giving more importance to patient's satisfaction in order to (i) avoid litigations (ii) to maintain and improve reputation

* Corresponding author.

E-mail address: rmk11.ngp@gmail.com (R. Kshirsagar).

of hospital.¹

Patient satisfaction is defined as degree of congruency between expectations of patient about ideal care & her/his perception of actual care she/he received in hospital. It is a vital marker for the quality of health care delivery & is an internationally accepted factor, which needs to be studied thoroughly & repeatedly for smooth functioning of health care provided by hospitals.² Patient's perspective about standard of health care services can be obtained by their feedbacks.³ Therefore obtaining & analysing feedbacks from patients is required regularly.

2. Review of Literature

Satisfaction of patients is important tool to measure success of health care services provided by hospitals.⁴ Expectations and demands of patients and their relatives have increased many fold due to (a) easier access to other options (b) their higher (i) paying capacity, (ii) levels of education & (iii) exposure and growth of media.⁵

Before arrival in Hospital, patient and their relatives have image about hospital because they enquire about (a) cost of treatment & (b) reputation of hospital from their social contacts. Their main aim to get cured at earliest but other factors may influence their satisfaction. If their social contacts rate hospital services as poor but they find it up to their satisfaction, then they may rate services of hospital as satisfactory. Conversely, if their social contacts rate hospital services as good and they find services below their expectation, then they may rate services as unsatisfactory. Very high and unrealistic expectations from hospital services may lead to unsatisfactory response, in spite of reasonably good care provided by hospital.⁵ Patient is consumer of hospital and is in distress and therefore expects comfort, care and cure at earliest.³

In past Government Hospital services were almost free and therefore expectations were minimal. Now Government hospitals have started charging money from patients. Charges of private hospital may be higher and therefore expectations of patients and their relatives have increased proportionately.⁵ Patients (customer's) perception about health care services provided by hospital is becoming increasingly important and its analysis contributes in forming strategy to evaluate and improve performance of Hospital.^{6,7} Survey helps Administrative authorities of Hospital to find out ways of improving existing methods of patient's care.⁴ Work culture of caring for patients and improvement in patient care can be initiated by analysis of inputs received from feedbacks from patients.³⁻⁵

Patient satisfaction survey is a set of questions used to get feedback from patients, to measure their satisfaction from quality & care of health care provided in hospital. Various authors reported study of questionnaire in studies to find out patient's satisfaction & other issues about patient's satisfaction from overall hospital services, quality of food ,

cleanliness of toilets & behaviour of doctors etc.^{1,6,8-28}

Patient's opinion about health care provided by hospital, which is also expressed in feedback forms, is likely to be discussed by patients and their relatives socially amongst their social contacts. In this manner reputation of hospital spreads by mouth-to-mouth publicity. By analysing feedback forms, hospital authorities will be able to know about reputation which is likely to be spread by patients and their relatives.¹⁰ Few authors have reported patient's satisfaction exclusively from patients of outpatient department. [OPD].^{2,9,19}

Data available on study of satisfaction of admitted patients is relatively less, as compared to large quantum of patients getting admitted in various Hospitals in India.⁹ Therefore this study was planned to evaluate satisfaction levels of admitted patients in clinical departments of tertiary care teaching hospital.

3. Aims and Objectives

To study level of satisfaction of admitted patients or their relatives from hospital services during patient's indoor stay in hospital in calendar year 2019, in tertiary care teaching hospital in Central India.

3.1. Inclusion criteria

(1) All willing admitted patients during period between 1/1/2019 to 31/12/2019 (ii) relatives of patients of paediatric and psychiatric wards, who were admitted during this period.

3.2. Exclusion criteria

1. Patients admitted in casualty ward.
2. Patients with indoor stay less than one day.²⁵
3. Patients who are not fully conscious.
4. Un willing patients or their relatives.

4. Materials and Methods

This study was cross sectional, and was conducted in various wards of clinical departments of tertiary Care, teaching hospital in Central India.

This study included all willing patients, admitted and discharged from this hospital between 1/1/2019 to 31/12/2019. Permission of ethical committee of Medical College was obtained prior to start of study vide IEC/NKPSIMS/1/2018 dated 27/12/2018.

Sample size was calculated keeping in consideration, 87.4% overall satisfaction reported in study at this hospital⁹. The formula used for sample size calculation was –

$$N = Z_{/2} * P * [100 - P] / L^2 \text{ Where } P = 87.4\%$$

$Z_{/2}$ - standard normal variant at /2 level

$$= 0.05 \quad \beta = 20\%$$

L – Absolute error = ± 2

Required sample size is 1101

In present study, total respondents were 3004

Before inclusion in this study, informed and written consent of patients or their relatives was obtained. On the day of discharge, patients or their relatives were requested to write their answers to ten questions related to non-clinical services and ten questions related to clinical services.[Table 1]. These ten non-clinical and ten clinical questions [parameters] were pre-validated and were based on various parameters used & published in previous studies.^{11,14,15} Twenty parameters used during this study were already in use in this hospital in 2019 and were translated in local Marathi, Hindi from English language, as per standard protocol. Questions were drafted about hospital functioning and various hospital services in such a manner, so that relatively less educated patients and their relatives can also understand all questions easily. The printed feedback forms in language of choice of respondents, were given to them by medico-social workers [MSW] of hospital, at time of face to face interview with authors at the time of discharge. These twenty questions were based on issue of patient's concern. [Table 1] e.g. Grading of hospital services was divided in four, easy to reply, catchy scales namely (i) Excellent (A1), Good (A), (iii) Bad (C) (iv) Worst (D), & respondents were requested to give answers in appropriate column of Feed Back Forms and put their answer by ticking in appropriate column [A1 OR A, OR B1 OR C] & responses of A-1 & A were included in category of satisfactory results & responses in category of B & C were included in category of not satisfactory group.¹¹

The feedback forms, duly signed by respondents were collected by MSW of this hospital. It was ensured that patients were fully conscious and oriented and clinically fit for discharge, at time of giving their judgment on hospital services. Willing relatives of patients of psychiatry and paediatric wards were requested to give their grading about hospital services, in appropriate column of feedback forms. The data collected was analysed by t- Test [unpaired].

5. Results

In calendar year 2019, total 3004 respondents participated in study which was 7.3% of all admitted patients in hospital, except patients of Skin, ear, nose & throat department & Respiratory wards because feedbacks from these wards could not be collected. As per compliance of NABH accreditation rules, obtaining feed backs from Indoor patients is an ongoing procedure in this hospital.

The number of respondents who gave feedback from various wards was Ophthalmology - N-898, Psychiatry - N-309, Paediatric - N-544, Medicine - N-428, Surgery - N-418, Obstetrics & Gynaecology - N-233 and Orthopaedics -N-176.

Overall, in non-clinical ten parameters, 62.67% to 97.96%, out of 3004 respondents expressed satisfaction

with services provided by non-clinical staff. In comparison, overall 95.2% to 98.26% respondents, out of total 3004 were satisfied with services provided by clinical staff of hospital including doctors, nurses, technicians [question-20 of Table 1]. 82% to 88.06% respondents were satisfied with (i) "May i help you counter" [question- 1] (ii) admission process [question- 2&3] and (C) general cleanliness of hospital (question- 4&7). 62.67% respondents were satisfied with toilets and wash room facilities. (question-5) 75.63% respondents expressed satisfaction with free food provided to indoor patients. (Question-6). 73.15% respondents were satisfied with billing services. (Question-8). 92% to 97.96% respondents were satisfied with security services and help given by MSW. (Question-9-10). Analysis of feedback forms revealed that 97.02% to 97.68% respondent were satisfied with care given by clinical staff [question-11 to 17]. These questions pertained to listening problems of patients, services provided in emergency, daily rounds of doctors and their standard and information provided to patients about their illness and decisions taken by doctors about treatment plan of patients. 95.2% respondents were satisfied with nursing services [question-18] and 98.57% respondents were satisfied with advises given to respondents at time of discharge [question-19].

Statistical analysis of results were done by t-test [unpaired]. Mean score in % of satisfaction in ten non clinical parameters was 82.49% with SD 10.07% and in ten clinical parameters was 97.45% with S.D. 0.90%. This difference was statistically significant [P value < 0.001].

6. Discussion

A study based on feedbacks given by patients & their relatives is considered valid only if responses are more than 200. If responses are less than 200, then margin of errors is unacceptable.¹⁴ In our present study 3004 respondents participated in study.

Available literature revealed that 50 to 3985 Responses had been analysed & reported. This tertiary care teaching hospital is NABH accredited and therefore obtaining and analysing feedback of patients is an ongoing process. Patient satisfaction levels were studied in 2008 in this hospital in 2008 [n-907] and reported in 2012. This study showed overall satisfaction level of 87.8%.¹⁰ In year 2016-17, similar study of satisfaction level of respondents [n-384] was conducted exclusively in medicine wards of this hospital and reported in year 2018, & overall satisfaction level was reported to be 95.44%.¹⁵

Patient satisfaction survey was conducted in 25 district hospital in Andhra Pradesh in year 1994. They reported 1179 responses, out of which 942 were patients and 239 were Attendants/ Relatives of patients. They reported overall 65% patients' satisfaction from total of 1179 responses, [approximately 40-50 responses per hospital].¹⁴ Overall satisfaction in our study is 98.10% [Table 1]

Table 1: Questionnaire in English and Result of study of satisfaction level of n= 3004IPD patients of hospital in year 2019

Patient's Name: _____ IPD no : _____ Diagnosis: _____		Date of Admission: _____ Date of Discharge _____		Department : _____ Unit no: _____ Ward no: _____	
S.No	Hospital facilities	Excellent A1	Good A	Bad B	Very Bad C
		Satisfactory responses		Responses Not Satisfactory	
		No.	(%)	No.	(%)
1	Help provided at May I help you counter	2538	84.49	466	15.51
2	Admission procedure during the morning hours	2731	90.91	273	9.09
3	Admission procedure during the night hours	2633	87.65	371	12.35
4	Environment provided in the hospital	2628	87.48	376	12.52
5	Cleanliness and facilities of toilet and bathroom	2162	71.97	842	28.03
6	Quality and quantity of food provided in the hospital	2393	79.66	611	20.34
7	Behavior of the attendants (class 4 staff)	2667	88.78	337	11.22
8	Facilities provided at the billing section	2402	79.96	602	20.04
9	Security services of the hospital	2848	94.81	156	5.19
10	Help provided by the Medical Social workers from Admission to discharge	2960	98.54	44	1.46
11	Behavior of doctors regarding understanding and listening to the illness/disease	2938	97.80	66	2.20
12	Availability of doctors during emergency	2931	97.57	73	2.43
13	Regular rounds by the team of doctors	2926	97.40	78	2.60
14	Understanding / Awareness regarding the disease/ illness provided by the doctors	2929	97.50	75	2.50
15	Discussion/Information of the treatment plan /Surgery by the doctors	2925	97.37	79	2.63
16	Medical Tests/ procedures performed on the dates specified by the doctors	2896	96.40	108	3.60
17	If not, were the reasons provided for the failure in the execution of the medical tests	2930	97.54	74	2.46
18	Behavior of the nursing staff	2856	95.07	148	4.93
19	Explanation regarding the treatment protocol given by the doctors/staff nurse at the time of discharge	2955	98.37	49	1.63
20	Overall feedback / facilities provided by our hospital	2947	98.10	57	1.90

Feedback, if any : Signature of respondent

Table 2: Group statistics

	Group	Mean	Std. Deviation	Std. Error Mean	T value	value
Score in %	Non Clinical	82.4930	10.07012	3.18445	-4.88	<0.001
	Clinical	97.4550	.90426	.28595		

Various other authors reported responses by 200, 619, 1485, 3985, 446, 270 respondents in year 2000,2004, 2006, 2009, & 2012 respectively.¹⁴ Various authors reported varying degree of satisfaction among patient regarding quality of food, cleanliness of toilets, behaviour of doctors ,& also satisfaction about overall hospital services & and all these parameters were included in our study.^{1,4,6} Three authors reported patient's satisfaction amongst n-1625, n-100 & n-200, exclusively among OPD patients in year 2009, 2014, 2016 respectively.^{2,9,18}

One study [n-200] outside India in 2000, reported satisfaction levels of 86.43% about nursing care and 89.72% about medical care and 75.12% satisfaction about overall care,¹⁴ Syed S [2012] et al¹⁷ reported study of patient satisfaction, in which 450 outdoor & indoor patients participated & they replied to questionnaire & overall 89.1% respondents were satisfied with health care services. In year 2012, a study of satisfaction among 50 admitted patients of a surgical unit of a teaching hospital was reported. They reported satisfactory response from admission process 82%,

nursing services 80%, behaviour of nurses and doctors 92%, cleanliness of toilets 49% and quality of food 78%. The five major satisfiers were behaviour of doctors, explanation about disease and treatment, courtesy of staff at admission counter, behaviour and cooperation of nurses. The five major dissatisfiers were cleanliness of toilets, quality of food, explanation about rules and regulation, behaviour of orderlies and sanitary attendants. All these parameters were included in our current study & results are described in Table 1.

In year 2013 a cross sectional study was conducted in two teaching hospitals in India and aim of the study was to establish dimensions/ design/ methodology/ approach of patient satisfaction. The result of this study revealed that patient's satisfaction is multidimensional & dimensions reported were physician care, nursing care, internal facility etc. & all these parameters were included in our current study.²³ In 2016 results of an Indian cross sectional study was reported, in which sample size was 100 patients. This study revealed overall satisfaction as 73.1% with mean value 3.655.²⁴ In January to March 2019 a cross-sectional study was conducted in India & questionnaire were used to find out patient's satisfaction among admitted patients. They reported that 77% patients were satisfied.²⁷ In February-March, 2017, a cross sectional Indian study was conducted for patient satisfaction among 150 patients admitted in various emergency wards for more than 24 hours. The questionnaire included admission process, discharge information, cleanliness of toilets and explanation of disease by doctor and availability of doctors. They reported 55% satisfaction with overall care, 51% satisfaction with admission process, 61% satisfaction with explanation of disease and 49% were satisfied with availability of doctors. They also reported unsatisfactory response of 59% with general cleanliness and 58% cleanliness of toilets.²⁵

In year 2016 a cross sectional study about patient satisfaction in north India was reported, in which questionnaires were used to find out level of satisfaction among 3278 outdoor & 1614 admitted patients. They reported that most of admitted patients were satisfied with care by doctors, nurses & hospital environment. Unsatisfactory responses were reported from cleanliness of toilets in this study & all these parameters were included in our study.²⁸

In Saudi Arabia, during 2018, questionnaire were used, to find out patient satisfaction among 303 outdoor & admitted patients & 82.8% were satisfied with treatment given by nurses, 90.1% were satisfied with treatment given by doctors, & about 79.6% were satisfied with cleanliness & all these parameters were included in our study.²⁰ One study from Romania, reported one third of respondents were unsatisfied with hospital services in year 2020.²²

Our present study has sample size of 3004 and overall satisfaction from non-clinical services varied between

62.67% to 97.96% (question no 1-10 in Table 1) and overall satisfaction from clinical services varied between 95.2% to 98.57%. (question- 11-20 in table-1) & results are discussed in Table 1. Few possible reasons for higher satisfaction levels in clinical services given by respondents, in our present study are¹ availability of post-graduate students with MBBS degree and nursing students in all wards on 24 hours basis & it is known fact that these category of health care workers are more educated & likely to behave in a better manner because education improves behaviour.² This hospital is located in outskirts of city & other hospitals are located at a distance of 10-15 km.

7. Conclusions & Recommendations

Higher education standard and higher paying capacity of patients and their relatives have increased their expectations from hospital services. Majority of hospital are attempting to get empanelled with various insurance companies and empanelment agencies, which resulted in increase in quantum of patients getting treatment on cashless basis. Patients have multiple options to get themselves treated and they are likely to choose hospital with best feedback. Satisfaction standard of patients about services provided by hospital are discussed socially by patients in their social circle. Hence all hospitals should obtain feedbacks from majority of patients and their feedback should be analysed on monthly basis, so that remedial actions can be taken by hospital administration, wherever & whenever required.

8. Acknowledgements

We acknowledge contributions of all Medico Social Workers (MSW) of hospital for encouraging indoor patients or their relative to give their feedback in spite of patient's hurry to go home. Especially we acknowledge contributions of Mrs Jaya Awale, Mr Rashid Diwan, Mrs Mangala Vinchurkar, Mrs Sandhya Pathade, Mrs Sangita Mule and Mrs Sunita Ramtekkar.

9. Limitations of study

Due to cross-sectional design of study, all responses were collected at a single point of time of discharge from hospital. Many discharged patients & their relatives are in hurry to go home & therefore expressed unwillingness to participate in study & their unwillingness is beyond control of authors. Unhappiness from hospital services could not be excluded as a reason for not participation in study.

10. Conflict of Interest

The authors declare that there are no conflicts of interest in this paper.

11. Source of Funding

None.

References

- Verma A, Sarma RK. Evaluation of the exit proforma in use at special wards of public sector tertiary care centre. *J Acad Hosp Administration*. 2000;12(1):(2000–01–2000–06).
- Jain A, Mishra N, Pandey CM. A study to assess patient satisfaction in out patient department of a tertiary care hospital in north India. *Int J Community Med Public Health*. 2003;3(1):1020–6.
- Qureshi W, Khan N, Naik A. A case study on patient satisfaction in SMHS hospital. *JK Practitioner*. 2005;12(3):154–5.
- Talluru S, Prasad G. Patient satisfaction -A comparative study. *J Acad Hospital Administration*. 2003;15(2):(2003–07–2003–12).
- Kumar R. Medical documentation-Patient satisfaction document. *J Acad Hospital Administration*. 2003;15(1):(2003–01–2003–06).
- Bhattacharya A, Menon P, Koushal V, Rao KLN. Study of patient satisfaction in a Tertiary referral hospital. *J Acad Hospital Administration*. 2003;15(1):(2003–01–2003–06).
- Singh B, Sarma RK, Sharma DK, Singh V, Aryaand S, Deepak. Assessment of hospital services by consumers: A study from NDDTC AIIMS, Ghaziabad. *Med-Legalupdate*. 2005;5(1):(2005–01–2005–03).
- Bima A. The quality of hospital services in eastern Ethiopia: Patient's perspective. *Ethiop J Health Dev*. 2006;20(3):199–200.
- Kumari R, Idris MZ, Bhushan V, Khanna A, Agarwal M, Singh SK, et al. Study on patient satisfaction in the government allopathic health facilities of Lucknow district. *India IJCM*. 2009;34(1):35–42.
- Kulkarni MV, Dasgupta S, Deoke AR, Nayse J. Study of Satisfaction of Patients Admitted In a Tertiary Care Hospital In Nagpur. *Natl J Community Med*. 2011;2(1):37–9.
- Yadav P, Mangwana S. Analysis of Patient Satisfaction surgery in Multispeciality Accredited Tertiary Care Hospital in Northern India. *IJBAMS*. 2014;p. 33–9.
- Webster T, Mantopoulos J, Jackson E, Cole-Lewis H, Kidane L. A brief questionnaire for assessing Patient health care experiences in low income settings. *Int J Qual Care*. 2011;3(3):258–68.
- Mishra P, Mishra T. Study of Patient Satisfaction at a Super Speciality Tertiary care. *Hospital IJCP*:25(7):624–34.
- Mahapatra P, Srilatha S, Sridbar P. A patient Satisfaction Survey in Public Hospitals. *J Hospital Administration*. 2001;13(2):10–5.
- Pande V, Nayse J. Study of Satisfaction Level of Admitted Patients of Medicine wards in Tertiary Care Teaching Hospital in Central India. *JMSCR*. 2018;06:1035–40. doi:10.18535/jmscr/v6i10.172.
- Qadri SS, Pathak R, Singh M, Ahluwalia SK, Saini S, Garg PK, et al. An assessment of patient's satisfaction with services obtained from a tertiary care hospital in rural Haryana. *Int J Collaborative Res Intern Med Public Health*. 2012;4(8):1524–37.
- Rajkumari B, Nula P. Patient's satisfaction. With care in a government health facility in north east India : A cross sectional study. *J Med Soc*. 2017;31(2):94–102.
- Gaur B, Jahnvi G, P T. Patient satisfaction about services obtained from a teaching hospital. *J Family Med Primary Care*. 2020;9(1):93–101.
- Sharma A, Kasar PK, Sharma R. Patient Satisfaction About Hospital Services: A Study From The Outpatient Department Of Tertiary Care Hospital. *National J Community Med*. 2014;5(2):199–203.
- Sodani P, Sharma K. Assessing patient satisfaction for investigative services at public hospitals to improve quality of services. *Natl J Community Med*. 2011;2(3):404–8.
- Owaidh AO, Atiah AA, Abadi AS. Patients' satisfaction with health care services in Southern Saudi Arabia. *Egypt J Hosp Med*. 2018;72(1):3857–60.
- Cosma SA, Bota M, Fleseriu C, Morgovan C, Valeanu M, &cosma D. Measuring Patients' Perception and Satisfaction with the Romanian Healthcare System. *Sustainability*. 2020;12(4):1612. doi:10.3390/su12041612.
- Chahal H, Mehta S. Modeling Patient Satisfaction Construct in The Indian Health Care Context. *Int J Pharm Healthcare*. 2013;7(1):75–92.
- Chakraborty SN, Bhattacharjee S, Abdur RM. A cross-sectional study on patient satisfaction in an Urban Health Care Centre of Siliguri Municipal Corporation. *Bengal Med J Dr D Y*. 2016;9(3):325–30.
- Sachdeva S, Kaur H. A study to assess the patient satisfaction regarding treatment and care in emergency department of New Delhi hospital India. *Nurse Care Open Acces J*. 2018;5(6):357–60.
- Mishra PH, Gupta S. Study of patient satisfaction in a surgical unit of a tertiary care teaching hospital. *J Clin Orthop Trauma*. 2012;3(1):43–7.
- Verma M, Rana K, Kankaria A, Aggarwal R. Assessment of patient's satisfaction visiting a tertiary health care institute in north India. *J Pharm Bio allied Sci*. 2020;12(3):252–61.
- Kaur M, Bashir M, Singh T, Kumar R. Cross sectional study of clients' satisfaction with outpatient and inpatient services of public health facilities of a North-Indian state. *Heal Serv Insights*. 2020;13:1178632920929969. doi:10.1177/1178632920929969.

Author biography

Vivek K. Pande, Associate Professor

Shilpa Kuthe, Associate Professor

Jayadeep Nayse, Assistant Professor in Statistics

R Kshirsagar, Assistant Professor

Manisha Choudhary, Administrative Officer

Jaya Awale, MSW

Cite this article: Pande VK, Kuthe S, Nayse J, Kshirsagar R, Choudhary M, Awale J. Patients satisfaction from hospital services in 2019. *Panacea J Med Sci* 2021;11(3):435–440.