

An assessment of OPD registration counter services and channelization of patients in NSCB Medical College Hospital, Jabalpur (MP)

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Abstract

Background: Health is a fundamental human right. Outpatient department (OPD) registration counter is the first entry point of any patient, and it is an important point to reflect the services provided to the community in a hospital setting.

Objectives: (1) To review the existing situation of patient load and OPD registration counter facility available, (2) the mode of channelization of patients from OPD registration counters to one nearest and one farthest OPD, and (3) the difficulty faced by patients and patient satisfaction.

Materials and Methods: This was a cross-sectional study design based on direct observation and interview of patients done at OPD of NSCB Medical College, Jabalpur, Madhya Pradesh, India. A total of 640 patients were selected from simple random sampling technique, who were going to either medicine (nearest) or Pediatric (farthest) department. Time was noted at different points of channelization, and interview of the patient was taken with the help of a predesigned questionnaire. Data were analyzed using MS Office Excel 2007 software.

Result: Of the 640 patients, only 605 (94.5%) of them took part till the end of the study. The average arrival rate was 80 patients/h. The average time taken between joining the queue and reaching up to the registration counter was 29 ± 2.9 min. The average total time taken to get the OPD services after joining the queue was 74.6 ± 4.1 min. Patients were dissatisfied with physical facility but satisfied with staffs.

Conclusion: Patient satisfaction toward hospital staffs and doctors were good, but they were dissatisfied with physical facility and waiting time. There is an urgent need to focus on causes of dissatisfaction to increase patient compliance and success of treatment.

KEY WORDS: Outpatient department, patient channelization, registration counter services

Introduction

Health is a fundamental human right. The 30th World health Assembly resolved in May 1977 that “the main social

target of governments and WHO in the coming decades should be the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.” But, these standards of health are not achieved by both developed and developing countries till date.^[1]

There is a need to focus our attention to quality of care, because it is a right to every individual of every nation. An immense expansion of knowledge and technologies have occurred in the health sector in the past few years, but still, the health-care system performs below the acceptable levels in ensuring the patient satisfaction and their needs. The good health of nations is a key to human development, and it is

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important to analyze health system performance and to share what we know to government and community.^[2]

There is a need to give accessible, affordable, equitable, and satisfactory health care to all the people of the country. Satisfaction is an important element in the evaluation stage.^[3] This study was conducted for my project for Post graduate course in health and family well fare management from National Institute of health & Family well fare management (NIHFW) New Delhi 2011.^[4,5] By understanding the patient satisfaction and its current level, health-care services can be given according to the need of the patient. By knowing the deficiencies, the service provider can choose alternate strategies to improve the existing health situation. As a health-care manager, patient satisfaction is important owing to different reasons. Satisfied patient is more likely to continue treatment plan and medical advice and dissatisfied patient will not come to the same hospital in future, and it will lead to wastage of resources and a lot of problems to patients.

OPD registration counter is the first entry point of any patient to the hospital, and it is an important point to reflect the services provided to the community in a hospital settings. Through this study, we wanted to know the OPD registration counter services, time spent in different part of channelization process, and patient satisfaction in NSCB Medical College hospital so that it will be helpful to the management staff to improve the health services provided to the patient and, ultimately, reach patient satisfaction.

Materials and Methods

Study Setting and Period

This cross-sectional study was conducted at NSCB Medical college Hospital, Jabalpur, Madhya Pradesh, India, during May 10, 2011 to July 9, 2011.

Sample Size

The sample size was calculated based on the assumption that patient satisfaction was only 60% in one group at 95% CI and 4% precision. The sample was calculated using the formula $N = Z^2pq/d^2$ (where $z = 1.96$ at 95% confidence $p =$ prevalence of satisfaction, $q = 1 - p$, $d = 4\%$). The sample size calculated was 576. By adding 10% for nonresponder, the sample size came out to be 640.

- Inclusion criteria: Patients who were going to the Medicine/Pediatrics department for receiving OPD services and willing to take part in the study.
- Exclusion criteria: Patients who were going to other departments, seriously ill, and not willing to take part in the study.

Ethics Approval and Consent

Research was initiated after acceptance of the study by the superintendent of the NSCB Medical College, Jabalpur, India, for research. Informed written consent was taken from parents of participants. During processing of the data, strict confidentiality was maintained.

Methodology

The study was conducted for a duration of 2 months. Patients were selected from the OPD registration counter area. Half the number of the patients included in the study were going for Medicine OPD services (nearest), and the rest half the number of the patients were going for Pediatrics OPD services (farthest). Data regarding patient load, existing staff, and facility available were obtained from records available in the hospital for 2 months. A total of 605 patients (305 for nearest and 300 for the farthest OPD) was selected by simple random sampling technique to calculate the time consumed in queue for OPD slip, reaching to their respective OPD, and total time taken in OPD services. While the patient joined the queue in registration counter, a slip denoting the time of joining the queue and identification number was given to the patient. When the patient reached the registration counter, the time was denoted by a computerized slip. Again time was noted on the slip when the patient reached to their respective OPD. Interview of the patients or their guardians (in case of pediatric patients < 16 years) was taken with the help of a predesigned questionnaire when the patient got their OPD services. Data were analyzed using MS Office Excel 2007 software.

Result

A total of 640 patients were selected for the study, but only 605 (94.5%) patients took part till the end of study. Rest of the patients were considered as nonresponders. Table 1 shows that most of the respondents 224 (37.02%) were between the age group of 16 and 30 years, followed by 170 (28.10%) who were aged between 31 and 40 years, 126 (20.83%) of them between 41 and 50 years, 39 (6.45%) of them between the 51 and 60 years, and 46 (7.60%) of them older than 60 years). There were 358 (59.17%) male subjects and 247 (40.83%) female subjects. Most of the respondents [335 (55.37%)] were married. Most of the patients were illiterate [170 (28.10%)], followed by those who completed primary and middle educations. Only 109 (18.01%) respondents completed bachelor or above degree. Related to occupation, most of the respondents were laborers [170 (28.11%)] followed by the students, nongovernment employees, government employees, and unemployed. The total number of hospital visits was divided into three categories: one visit, two to five visits, and more than 5 visits. Most of the respondents [370 (61.16%)] visited two to five times during the last 1 year period.

Physical Facility Available at OPD registration Counter

The area around the OPD registration counter was 40 feet × 20 feet (for queue). There are basically two types of registration counter services available—three OPD slip counters with three receptionists and three paying counters for investigation slip with three receptionists. There was a space available for one OPD slip counter and one paying counter for investigation slip in registration counter but was not utilized. Distribution of three counters was as follows: one for medical staff, one for male patients, and one for female patients.

A total number of six computers (10–15 years old) and six printers were present. No generator was available in case of power cut in the OPD registration counter area. OPD registration services were available from 8.30 a.m. to 1.30 p.m. (= 5 h), and then emergency window started. Proper drinking water facility was not present just near to registration counter area.

Table 1: Distribution of respondents according to sociodemographic characteristics ($N = 605$)

Characteristics	Number	Percentage
Age (years)		
16–30	224	37.02
31–40	170	28.10
41–50	126	20.83
51–60	39	6.45
61+	46	7.60
Sex		
Male	358	59.17
Female	247	40.83
Marital status		
Single	215	35.53
Married	335	55.37
Widowed/separated	55	9.1
Education		
Illiterate	170	28.10
Primary	152	25.12
Middle	94	15.54
Secondary	80	13.23
Bachelor or more	109	18.01
Occupation		
Unemployed	44	7.27
Government employed	106	17.52
Nongovernment employed	130	21.48
Labor	170	28.11
Student	155	25.62
Total number of hospital visits in last 1 year		
1 visit	145	23.97
2–5 visits	370	61.16
More than 5	90	14.87

Average arrival rate of patient in an hour = Total no. of patients arrived during that period/Total OPD h = 80.53 patients/h (calculated from hospital record in 2-month duration).

Table 2 shows the time required in different parts of channelization process from joining the queue for prescription slip at registration counter to finally getting the OPD services. The average time taken between joining the queue and reaching up to the registration counter was around 28.75 ± 2.9 min, with the maximum time of 130 and a minimum of 3 min. The time taken in queue depends upon the patient load on that day, the time when patient joined the queue (maximum patient load is between 10 and 12 am), and other technical problems (power cut and computer problems). The average time taken from registration counter to nearest (Medicine) OPD was 5 ± 4.7 min, while the average time taken to reach the farthest OPD (Pediatrics) was 20 ± 1.8 min. The maximum time taken by some patient to Pediatric OPD was 73 min, which was owing to nonavailability of proper signage system. Average time to get OPD service after reaching the Medicine OPD was 49.8 ± 4.1 min, while for Pediatric OPD 19.3 ± 1.2 minutes. The maximum waiting time for Medicine OPD was 162 min, while minimum was 11 min. The overall mean time required to get OPD services after joining the queue was 74.6 ± 4.1 min.

- Percentage of more than 2/3rd patients of positive response $\geq 66.67\%$ = Good.
- Percentage of more than 2/3rd patients of positive response $< 66.67\%$ = Poor.

Table 3 shows that many factors influence the overall patient satisfaction. The 424 (70%) respondents were dissatisfied with the water facility, while 218 (36%) of them were dissatisfied with the sitting arrangement. The 460 (76.03%) respondents were satisfied with the clean and tidy waiting area. The 387 (63.96%) of the respondents were dissatisfied with lack of ventilation and toilet. Most of the patients were dissatisfied with a lack of separate window for senior citizens and handicapped and lack of generator during the power cut time.

The problem of signage at OPD area was observed by 538 (88.92%) respondents, guiding signage problem from registration counter to their respective OPD by 550 (90.90%) respondents, and signage problem at consultant room by

Table 2: Time required in different point of channelization process to access the OPD services

Channelization points	Average time (min)	SD	Maximum time (min)	Minimum time (min)
Time taken between joining the queue and reaching up to registration counter	28.75	2.9	130	3
Time taken from registration counter to nearest (Medicine) OPD	5	4.7	25	2
Time taken from registration counter to farthest (Pediatrics) OPD	19.94	1.8	73	4
Time taken to get services after reaching the Medicine OPD	49.8	4.1	162	11
Time taken to get services after reaching the Pediatric OPD	19.3	1.2	47	5
Total overall mean time required to get OPD services after joining the queue	74.6 min; standard deviation = 4.1			

Table 3: Distributions of responses of the respondents regarding OPD services

Experience to OPD services	N = 605, n (%)			Comment
	Agree	Disagree	Not sure	
Physical facility				
1. Enough sitting arrangement	328 (54.21)	218 (36.03)	59 (9.76)	Poor
2. Enough water facility in waiting area	134 (22.14)	424 (70.08)	47 (7.76)	Poor
3. Clean and tidy waiting area	460 (76.03)	122 (20.16)	23 (3.81)	Good
4. Enough ventilation and toilet facility	205 (33.89)	387 (63.96)	13 (2.5)	Poor
5. Registration window separate for senior citizens, handicapped, male, and female	0 (0)	605 (100)	0 (0)	Poor
6. Use of generator facility in power cut condition	0 (0)	542 (89.58)	63 (10.42)	Poor
Signage system				
1. OPD area	35 (5.7)	538 (88.92)	32 (5.29)	Poor
2. OPD area to respective department	30 (4.95)	550 (90.90)	25 (4.12)	Poor
3. Consultant room	120 (19.83)	470 (77.68)	15 (2.49)	Poor
Treatment and care response to patients				
1. Faced problem while standing in queue and reaching up to registration counter	325 (53.71)	250 (41.33)	30 (4.96)	Poor
2. Nice behavior of registration counter staff	460 (76.03)	130 (21.49)	15 (2.48)	Good
3. Doctor did physical examination with respect	498 (82.31)	84 (13.88)	23 (3.81)	Good
4. Doctor given enough time for consultation	425 (70.24)	150 (24.80)	30 (4.96)	Good
5. Doctor asked about your illness in detail	442 (73.05)	140 (23.15)	23 (3.80)	Good
6. Understand your treatment and illness after meeting the consultant doctor	478 (79.00)	92 (15.21)	35 (5.79)	Good
7. Overall satisfied to OPD services	92 (15.20)	502 (82.98)	11 (1.82)	Poor

470 (77.68%) respondents. The signage problem was more at the farthest OPD, especially for illiterate persons.

A total of 460 (76%) patients were satisfied with the behavior of the staff at registration counter. Most of the patients [498 (82.31%)] told that consulting doctor did physical examination with respect, 425 (70.25%) of them told that doctor gave enough time, and 442 (73%) of them told that doctor asked about their illness. After meeting the consultant doctor, 478 (79%) patients understood their illness and treatment.

The overall satisfaction of respondents for OPD services was poor. Only 92 (15.20%) respondents were fully satisfied with the OPD services.

Discussion

This cross-sectional study was conducted at NSCB Medical College Hospital, Jabalpur (Madhya Pradesh), India. A total of 640 patients were selected for the study, but only 605 (94.5%) patients took part till the end of study. Medicine (nearest) and Pediatric (farthest) OPD was selected for the study.

In this study, most of the respondents belonged to the age group of 16–30 years, followed by 31–40 years of age group. This is a very functionally class of group. The older age group was probably underrepresented. The male responders were more in number when compared with the female responders. Saini *et al.*^[6] also found that the mean age of responders was 35.9 years and most of the responders were male subjects. About 61% of the responders visited this hospital two to five times in the last 1 year. The average time taken between joining the queue and reaching up to registration counter was around 29 ± 2.9 min, with maximum time of 130 and minimum of 3 min. The time taken in queue depended upon the patient load on that day, the time when the patient joined the queue (maximum patient load was between 10 and 12 am), and other technical problems (power cut and computer problems). As the space for one registration counter was available, which could be utilized, the average queuing time too can be decreased.

The average time taken from registration counter to nearest (Medicine) OPD was 5 ± 4.7 min, while the average time taken to reach the farthest OPD (Pediatrics) was 20 ± 1.8 min. The maximum time taken by some patients to reach Pediatric OPD was 73 min, which was owing to nonavailability

of proper signage system to guide them to farthest OPD. The proper color coding signage system should be there so that illiterate people can also able to reach their respective OPD without any problem.

The average time to get OPD service after reaching the Medicine OPD was 50 ± 4.1 min, while for Pediatric OPD, 19.3 ± 1.2 min. The maximum waiting time for Medicine OPD was 162 min, while minimum was 11 min. The overall mean time required to get OPD services after joining the queue was 74.6 ± 4.1 min. Waiting time showed an inverse relationship to patient satisfaction. Aljunid^[7] in his study in Malaysia, where average waiting time was 52 min, found that differences in satisfaction with long waiting time when compared with other studies by van Uden *et al.*^[8] and Mahfouz *et al.*^[9] could be attributed to the differences in the perceptions and expectations of the people. Reduction of the waiting time by triage of the patients and sending them to the appropriate doctor would save their time and provide appropriate treatment.

Most of the respondents were dissatisfied with poor physical facility at registration area such as sitting arrangement, water facility, ventilation and toilet, lack of separate window for senior citizens and handicapped, and generator facility during power cut. A similar result was obtained by Sivalenka^[10] and Peerasak *et al.*^[11] who also found these as the major areas of concern in their study.

Most of the patients were satisfied with the doctors and staff present at the registration counter. The respondents told that doctor did physical examination with respect (82%), gave enough time for consultation (70%), and asked about illness properly (73%) and that, after consultancy, understood their illness and treatment (79%). The satisfaction regarding the listening of the complaints and the behavior of the doctors and the paramedical staff was similar to that recorded by Peerasak *et al.*^[11] in their study.

Conclusion

Patient satisfaction is an important indicator that reflects the service quality at any level of health services. There are many factors responsible for patient dissatisfaction such as queuing time, waiting time, physical facility available at OPD registration counter area, and lack of proper signage system. The overall satisfaction with doctors and registration staff in this study was good. There is an urgent need to focus on the

causes of dissatisfaction at our hospital to increase patient compliance and success of treatment.

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