



Original Research Article

A study of waiting time of patients in outpatient department of armed forces Tertiary Hospital in Northern India

Rajeev Saxena^{1,*}, Sartaj Sharma¹, Vivek Sharda¹, Nalini G¹, Manoj Kumar Yadav²

¹Dept. of Neurology, Command Hospital (WC), Panchkula, Haryana, India

²Dept. of Medicine, Command Hospital (WC), Panchkula, Haryana, India



ARTICLE INFO

Article history:

Received 04-11-2020

Accepted 14-11-2020

Available online 11-12-2020

Keywords:

OPD

Waiting time

Simulation

Screening

Queuing method

ABSTRACT

A study on waiting time of patients in outpatient department was conducted in this hospital of northern India, with an aim to assess the services of outpatient department & suggests new ways to improve the health care system through research. A 100 respondents were chosen randomly from a pool of patients who visit the various OPD. The data was collected through questionnaire and interview.

Results: The study revealed 62 were male and 38 were female, 26 were below age 30 yrs & 40 were between age 30-50 yrs and 34 were above 51 yrs of age. The majority were married 76%. The 55% were local and 45% were from out station. The 37% were new registration and 63% were old patients. The majority (95) had spent less than 30 min at the registration and 49% has consultation time more than 30 min. The time spent in laboratory and radiodiagnosis for more than 30 min by 12% and 29% respectively. The various factors like overlaps of round & OPD time, transportation time of sample and preparation time in radiology has been pointed out as major problem area.

Conclusion: Queuing method, advanced simulations & real time waiting system will be immensely helpful to provide efficient & appropriate health care.

© This is an open access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

1. Introduction

Outpatient department (OPD) in any hospital is considered being “shop window” of the hospital. An outpatient service is the most important services provided by all the hospitals as it is the point of contact between a hospital and the community. Waiting time is amount of time a patient spent on being seen in the hospital. It is one of the important key factors in the United states to assess the quality of the health care system.^{1,2} The impact of restructuring the delivery of health care will cause significant changes in the entire health care system.

Therefore, a study was planned to assess our health care system in a setting of existing infrastructure by determine the waiting time in various department like OPD, laboratory and radiodiagnosis. Neuro OPD was chosen as it

is considered to be difficult department in term of diagnosis of the patients and amount of time spent by the patients in this OPD. The Laboratory and radiodiagnosis is always a common area of maximum clientele dissatisfaction.

2. Aim

To assess the services of outpatient departments & suggests new ways to improve the health care system through research.

3. Objectives

1. To determine the flow of patient & average time spent in multispecialty hospital.
2. To identify the factors those are responsible for high waiting time in the hospitals.
3. To recommend appropriate suggestions to optimize the waiting time in a tertiary care hospital.

* Corresponding author.

E-mail address: rajeev.surendra@gmail.com (R. Saxena).

4. Materials and Methods

The research design used in this study is both “Descriptive” and “Exploratory”. This study is carried out at Departments of Neurology, Pathology and Radiology at Command Hospital Chandimandir which is one of the tertiary care hospitals in Armed Forces. The 100 respondents were chosen randomly from the pool of patients who visited this hospital without prior notification. The hospital staff were not informed about the study. The exclusion criteria included patients who were critically ill requiring referral or admission, aggressive psychiatric patients, repeat medications, investigations or procedures only without seeing a doctor. The data was collected using both by primary data collection methods as well as secondary sources. Most of the information was gathered through primary sources. The methods that were used to collect primary data are: Questionnaire & Interview. The components are;

1. Distribution of Patient view on Waiting Time spent in reception for registration.
2. Distribution of Patient view on Waiting Time spent in OPD for Consultation.
3. Distribution of Patient view on time spent in Investigation. (Laboratory, Radiology).

4.1. Analysis of the data

Analysis of the data was done through tables and graphs showing the number of respondents, their respective percentage, percentage bars diagrams and pie diagrams were used for the interpretation of the results.

5. Results

The study revealed 62 were male and 38 were female, 26 were below age 30 yrs & 40 were between age 30-50 yrs and 34 were above 51 yrs of age. The majority were married 76%. The 55% were local and 45% were from out station. The 37% were new registration and 63% were old patients.

Table 1: Waiting time spent in reception for registration

Criteria	Frequency	Percentage
<15 min	40	40%
15-20 min	26	26%
20-25 min	11	11%
25-30 min	18	18%

5.1. Analysis

It is evident from the above table that the maximum time spent by the patients in the reception for registration. Out of 100 patients, 40% patients had to wait for less than 15 min, 26% waited for 15-20 min, 11% had to wait for 20-25 min,

18% waited for 25-30 min and only 5 no. of patients had to wait for more than 30 min in the reception for registration.

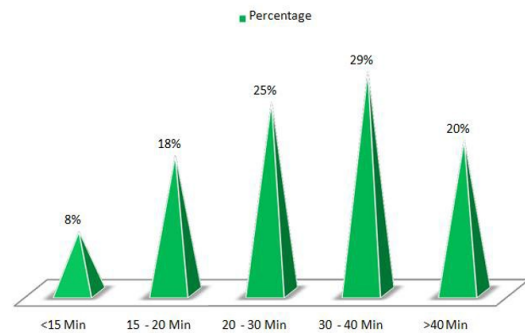


Fig. 1: Waiting time at consultation room

It shows that out of 100 patients, highest is 29% patients had to wait for 30-40 and lowest 8% patient waited for less than 15 min. While 25% patient waited for 20-30 min. 18% patient waited for 15-20 min and 20% patient waited for more than 40 min in the OPD for consultation.

Table 2: Waiting time at laboratory & radiology dept

Criteria	Laboratory (%)	Radiology
10min	15(15%)	2(2%)
15-20 min	31(31%)	5(5%)
20-25 min	11(11%)	13(13%)
>30	12(12%)	29(29%)
Pts. Not gone through any test	24(24%)	37(37%)

For investigation in laboratory out of 100 patients, according to 31% patients; time taken is 10-15min. According to 15% patients, 10 min of time is taken. 11% patients had to wait for 15-20 min while for the other 12% patients it took more than 30 min and for 7% patients; it took 20-25 min. while 24% patients did not go through laboratory test.

For investigation in Radiology out of 100 patients, according to 5% patients; time taken is 10-15min. According to 2% patients, 10 min of time is taken. 13% patients had to wait for 15-20 min while for the other 29% patients, it took more than 30 min and for 14% patients; it took 20-25 min. while 37% patients did not go through radiology test.

6. Discussion

The change is the only constant in our career, else we get stagnant therefore this study was conducted to improve ourselves further. The results of the study were decent enough to match any tertiary care hospital of the country.

The average time spent at the registration counter by 95% cases was less than 30 min owing to seven computerized registration counters with permanent staff including the

supervisor of 30 years of service. A similar study from National Hospital Sri Lanka by Jayawardena DBAS et al. (2012) indicated median time of 24 min between arrival to OPD and leaving the registration desk.³ He also observed median waiting time of 42 min for doctor consultation room where as in our study almost 49% had waiting period of more than 30 min. The 80% had finished the consultation by 40 min. The average waiting time in Atlanta was 60 min.⁴ Our consultation time by Neurologist varied from 5-25 min with avg of 11min. The long waiting consultation was analyzed which 63% feel that few manpower availabilities could be the major issue as there are overlap of round /OPD timing and simultaneous emergencies call. The newer patients in neuro takes longer time. The prior appointments, investigations, medical clerks or physician assistants and counsellors can improve the scenario.

The waiting time at laboratory for 66 patients was less than 30 min but 24 patients could not do the investigation because of overwhelming delay. The department of radiology had similar numbers where 29 patients had to wait for more than 30 min and 37 could not do the test because of the delay. The grey areas which surfaced in the studies are mainly the time spend in documentation at every levels and lack of manpower. Having self-descriptive form of complaints at OPD, lab, radiology can improve the system further. Therefore, employing health care assistant esp. graduates in the medical field will bridge the gaps. The pneumatic shoot facilities for transport of sample, bar code generations at the respective OPD. The ground floor sample collection center along with the OPD and waiting area further helps. The preparation at the radiology can be reduced by prior counselling, appointment and instructions.⁵ The online accessibility of reports by the patient with digital signature of the doc can significantly tackle the prolong waiting time and no show up of patient because of long queue.

The management challenges are mainly to have customer care facilities and digitalization of service for optimum utilization of the trained manpower. The ultimate aim of such efforts is to improve relationships between client expectations and actual service experience.

7. Recommendations

Here are the few simple recommendations quoted with the evidence of previous studies.

1. The receptionist staff must be trained to attend phone calls efficiently.
2. Introducing online appointment bookings.
3. Staff working in the OPD, patients & their relatives also is the best source for obtaining information regarding the enhancement of patient satisfaction in the hospital.
4. All codes must be made available in a soft format to the receptionists.
5. Displaying the consultant's timings in the OPD, as well as online will reduce the number of enquiries

made by the patients.

6. Once the OPD schedule is finalized, appointments should be taken directly onto the HIS scheduling system. A system generated SMS can be sent to the patient confirming his/her OPD timing.

8. Conclusion

It is descriptive study which was aimed to analyses the waiting period in various OPD and suggest measures to improve the healthcare system in resources crunched, over stretched tertiary hospital in a government setup. Queue modeling can be applied in the areas such as rationing, scheduling, Bed allocation, laboratory design, and so on. The automation in the hospital and creating Realtime waiting period facilities by digitalization, will help the system immensely. The bottom line is to manage the manpower and technology.

9. Source of Funding

Nil.

10. Conflicts of Interest

There are no conflicts of interest.

References

1. Maxwell RJ. Quality assessment in health. *BMJ*. 1984;288(6428):1470–2. doi:10.1136/bmj.288.6428.1470.
2. Committee on quality of health care in America; Institute of Medicine, Crossing the quality Chasm: A New Health System for the 21st Century (National Academies Press, 2001).
3. Jayawardena DBAS. Patients waiting time at our patient's department at the National Hospital Sri Lanka. *J Community Med Public Health*. 2012;1. doi:10.29011/2577-2228.
4. Santos LMD, Rosenberg NM. Pediatric emergency department walk-out. *Pediatric Emerg Care*. 1994;10(2):76–78.
5. Bailey NT. A study of queues and appointment systems in hospital outpatient departments with special reference to waiting times. *J R Stat Soc*. 2018;14:185–99.

Author biography

Rajeev Saxena, Associate Professor

Sartaj Sharma, Neuromatron

Vivek Sharda, Assistant Professor

Nalini G, Neuromatron

Manoj Kumar Yadav, Resident Medicine

Cite this article: Saxena R, Sharma S, Sharda V, Nalini G, Yadav MK. A study of waiting time of patients in outpatient department of armed forces Tertiary Hospital in Northern India. *J Community Health Manag* 2020;7(4):125-127.