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POTENTIALLY AVOIDABLE HOSPITAL SYSTEM DELAY' -TRACKING IN POST-SURGICAL PATIENTS IN A TERTIARY CARE HOSPITAL OF WEST BENGAL

Community Medicine

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ABSTRACT

RATIONALITY: A "delay" is the hospital treatment process is the time-lag between the service (advice) offered to the service (treatment) gained; which is in majority of the cases are unintentional and due to the gross imbalance of demand of the service and the strength of service providers.
AIM: This study aimed to explore those potentially avoidable hospital system delays in the patients of a rural tertiary care hospital of West Bengal.
METHODS: Data was collected from post-surgical patients by interviewing them as well as scrutinizing their treatment record-sheet, in their pre-admission and post-admission phase.
RESULT: In the OPD almost 92% patients experienced a delay of more than 30 minutes to reach the doctor. While they have attended the investigation department, they experienced maximum delay for the radiological investigations. After admission, patients have experienced even more than 10 days delay for scheduling OT, for the delayed pre-anesthetic clearance. As a result it was found that 70% of subjects are having hospital admission nearly one month.
CONCLUSION: Thus an internal quasi-audit has been made out to search the pockets which are delaying the procedures of hospital service as well as making longer stay of patient, which were correctable and potentially avoidable.

KEYWORDS

Hospital; Hospital system delay; Potentially avoidable delay; Hospital treatment process

INTRODUCTION

A 'hospital' is an integral part of the social and medical organization with the divergent demand for curative health care and promotive health care [1, 2]. The population of India crossed 1.282 billion in 2015 and catering to the health care needs of such the huge population is quiet challenging in itself. It is the fact that 32.68% population of the population live below the poverty-line; hence cannot enjoy the private health care facilities. So the onus of health care falls primarily on the Government Hospitals. [3,4]

The Out-patient department is the first interaction of the patient with the hospital. So sometimes the OPD section is called as "Shop Window" of the hospital. For the purpose of the treatment, as a patient spend his/her times in the hospital, from her first knock at the registration counter, till the discharge (for IPD cases) or the last follow up in OPD is the contact-phase with the hospital. [5,6]

*"A **DELAY** in treatment is when a patient does not get a treatment--whether it be a medication, lab test, physical therapy treatment or any kind of treatment--that had been ordered for them in the timeframe in which it was supposed to be delivered,"* described by Nancy Foster, vice president of quality and patient safety policy at the American Hospital Association (AHA), where communication and staffing issues were laid common contributing factors in treatment delays. [7-10]

St. Jude Medical Centre of California, USA as a part of St. Joseph Health system, which covers California, West Texas and Eastern New Mexico; recognized by state and national health organizations of North America; provided the concept of **Potentially Avoidable Delay (PAD) in the Hospital Service system** [7]. Those **'Avoidable delays'** have been defined as is any barrier to facilitating effective, efficient, timely and safe care; and the association provides the weight age in tracking these 'avoidable delays' for the rectification ant quality-control of the hospital. [7-9]

So far the literature has been searched for, no such accounting or reporting of avoidable delays has been found in support of any hospital of West Bengal. So this endeavor has been carried out to explore some areas of "avoidable delays" in a tertiary care hospital in rural part of West Bengal.

OBJECTIVE

The present project was an endeavor to explore those areas of preventable delays in treatment process as perceived by the post-surgical patients with the following objectives:
[1] To explore the extent & source of delay in pre-admission phase (if any)
[2] To explore the extent & source of delay in post-admission phase (if any)

Method of study

An Observational cross-sectional hospital-based study was conducted from February to May 2015, in a tertiary care medical college, situated in a rural panchayet area in West Bengal. For feasibility, the study was carried out in the In-patient ward of General Surgery in-patient department. All patients admitted for surgery in the reference period were included in the study. Amongst the data collection period all post-operative patient who were been admitted in the General Surgery ward have been approached. Those who are unconscious, or, critically ill, or not consented have been excluded in the study.

A predesigned and pretested schedule, Bed head tickets (BHT) and laboratory investigation reports were used as data collection tools and the data was collected by means of interviewing the patients followed by the record analysis of the BHT and lab reports. Prior to conceive the study permissions from the Institutional authorities, Ethics Committee and the concerned Medical Superintendent of the hospital had been sought.. The purpose of the study was explained and the informed consent for participation was taken from each study subjects. The anonymity and confidentiality of study participant was maintained.

- **Study variables:**

i) *Time taken for initial registration* ***(Delay in the Ticket registration)***: The approximate time what the patient can recall, has been taken to issue the OPD ticket in the ticket-issuing counter. Considering the practical point of view first half-an hour is not-considered as the delay.

ii) *Time interval from registration and reaching doctor* ***(Delay in the OPD)****:* the approximate time that the patient could recall, in which she had to await in the OPD to reach the doctor's desk. First half-an hour is not-considered as the delay.

iii) *Pre-admission investigation and the delay on issuing reports* ***(Delay in laboratory)*****:** From the OPD card it could be found the different types of investigations which were been advised to the patient, and the final date of issuing/documenting those reports. These are the potentially avoidable delay in diagnosis.

iv) *Time interval from first OPD check up to Admission* ***(Delay in advising admission):*** The duration from the first day OPD check up to the admission. This had been ascertained by record analysis of the OPD ticket card.

v) ***Delay in Transit*** *(time interval from being advised for admission to the factual admission in the IPD section):* The approximate time that a patient required to take admission in the indoor ward after getting advised for admission in the OPD card. For practical

purpose first half-an hour is not-considered as the delay and any delay of more than half-an-hour is taken in account of potentially avoidable.

vi) ***Cause of Transit-delay***: The cause(s) of transit-delay as a patient has perceived.

vii) ***Delay in the IPD*** (admission to OT): days spent to get the OT done

viii) ***Causes of OT delaying:*** Causes that induced the delay in OT scheduling

After completing the data collection, the data coding and the data entry was done in the Microsoft excel sheet. The frequency distributions was evaluated and presented in tables with descriptive statistics.

RESULT

- Out of total 58 patients majority belonged to the age-group of 20-40 (51%) , 8.6% were of more than 60 years of age and 5.6% were below 20 years of age. Almost half of the study subjects (55.2%) were male. As usually expected majority of the patients were from low socioeconomic status (78.9%)[10] .77.5% of the study subjects were admitted from non-carcinoma surgeries.
- Among the respondent participants, on studying their OPD ticket it was revealed that, almost 60% patients have visited OPD 15-30 days prior to the admission; and more over 30% patients required more than one month times to get admitted.
- Maximum patients require almost 30 mins to 1 hr times for registration in OPD desk; followed by 15-30 minutes waiters for registration. Majority (51.6%) patients had to wait for one to two hours in the OPD to reach doctor's desk. 36% patients required 30 mins to one-hour time for it. And near about 4% patients required more than two hours time to reach the doctor. So in the OPD almost 92% patients experienced a significant delay to reach the doctor.

Table 1: Distribution of study population according to their perception on the 'awaiting time in OPD' [recall method]

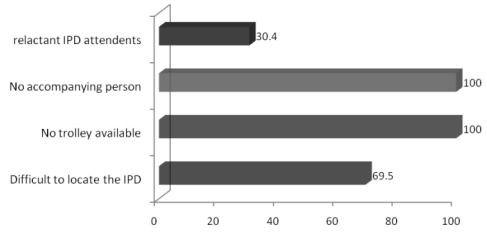
[n=58]

Time taken	Time taken for OPD Ticket registration	Time taken to meet the doctor, after registration
	Frequency (%)	Frequency (%)
< 30 minutes	3(3.4)	6(8.7)
30 mins ~ 1 hrs	22(39.4)	20(36.0)
1- 2 hrs	28(49.8)	30(51.6)
More than 2 hrs	5(7.4)	3(3.7)
Total	**58(100.0)**	**58(100.0)**

- After getting advised for admission in OPD, 79% patients faced a delay on getting admitted in the IPD ***(OPD to IPD transit delay)***. Amongst all the subjects, 38.5% required 30 mins to one hour time, 36.8% required near about one- two hour time and 3.7% required more than two hours time to get admitted in the IPD.

Figure 1 : Bar diagram showing frequency distribution of the 'causes of delay in transit' as was perceived by the subjects [recall method]

[n=58]



*****Multiple response***

From the above mentioned diagram, it is evident that almost all the responders, who have suffered from delay in the admission process (more than 30 mins) [23 amongst 57] ; experienced the absence of any trolley/ accompanying person for transit from OPD to IPD section (100.0%). Many of them (69.5%) faced difficulty to locate the IPD and 30.4% subjects shared their feelings that it appeared to them that the IPD staffs were reluctant to complete the procedure.

Table 2: Frequency distribution of different types of pre-admission investigations done with the study subjects and the average delay on such, as was perceived by the patient.

[n=58]

Types of investigations done	Serving department	Total	Average delay in OPD investigations (as perceived by patient) [days]
Blood RE	Pathology	58	3 days
Urine RE	-do-	23	6 days
FNAC	-do-	4	13 days
Blood Urea_ Creatinine	Biochemistry	58	4 days
Blood Sugar	-do-	17	4 days
LFT	-do-	5	12 days
Thyroid profile/ TSH only	-do-	6	20 days
VDRL	Microbiology	58	6 days
HBsAg	-do-	53	7 days
HIV 1&2	-do-	58	4 days
Chest X ray PA view	Radiodiagnosis	12	15 days
USG Abdomen	-do-	46	25 days
ECG in all leads	Cardiology	12	5 days

So major laboratory delays were in Radiological investigations, Thyroid profile and LFT (Biochemistry).

Table 3: Frequency distribution of the patients' awaiting time for operation; after the admission (Admission to OT time) [Record analysis of BHT]

[n=58]

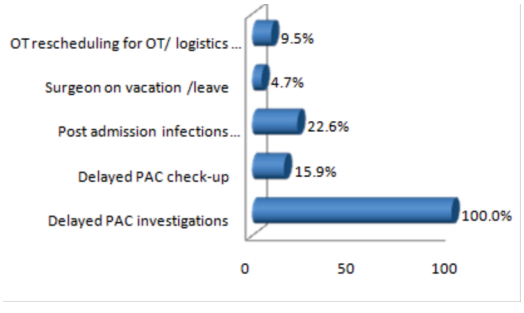
Admission to OT time (days)		Frequency	Percentage
No Delay	< 5 days	5	8.6
Delay	5-10 days	9	15.51
	≥ 10 days	44	75.86
	Total	**58**	**100**

The above mentioned table represented that majority of the planned OT patients had to wait for more than 10 days of admission (76%); for 15.5% patients, OT has been done within 10 days and for only 8.6% cases OT has been done within 5 days of admission.

Figure 2: Bar diagram showing the 'cause of delay' in OT as was either perceived by patients and/or documented in BHT

[n= 53]

***** Multiple response***



From the above mentioned graph it became evident that the post-admission delay for OT is mainly due to delay in the Pre-anesthetic clearence (PAC investigations) [100%]. Unfortunately for 15% cases the delayed PAC check up, in 22% cases infections, 4.7% cases unavailability of the concerned surgeon and in 10% cases logistic problem were the causes of delayed OT.

- From the study result, it was found that on the date of interview, 70.9% patients had more than one month stay in hospital, for 20% patients, it is of 2 week to one month; for 5% patient it was within 15 days and for only 3.2% patients, it was within a week.

DISCUSSION

The hospital was a tertiary care hospital located in the Darjeeling district, with a huge service area catering adjacent districts even the

states, with large Bed occupancy rate of almost 105% at any day. In the OPD almost daily 2603 patients attends [11]. The causes of high Bed occupancy rate and the crowd in OPD if justified with some insight, is not only the huge patients load, but also some 'delays' in the treatment processes, which to some extent got evident in this study.

Previous studies showed long waiting time in hospitals causes discontent among patients [12]. Scheduling elective procedures after the OPD and starting a pacemaker clinic led to better time management. After two months of implementing these measures, the average waiting time for consultation decreased from 58.6 minutes to 7.7 minutes without any additional manpower or resources.[13]

Cosgrove JF. et al. in 2008, recommended auditing delays and disseminating the results of the audit significantly decreases delays and median waiting times for urgent surgery because of improved surgical availability [14] Studies in the private super-specialty hospitals have reflected that main source of patients' dissatisfaction is their poor OPD experience and that is on prolonged patient-waiting time in the OPD. [15,16]

Qiunn TD et al. (2004) [18] in the research paper discussed that in any large teaching hospital there are multiple nexuses working together to complete the entire process. This includes the resident-nurse-supporting staff network in wards, and side by side the laboratory expatriation of reporting; as the diagnosis as well as prognosis of a patient, depends on the lab test reports. It had been demonstrated that delay in the laboratory investigations, ultimately leads to prolonged unnecessary hospital-stay of a patient; that increases the bed-occupancy in one hand, and in other hand the trend of nosocromial infection raises.

And that is why the decade-old concept of Shelker HP (1989) [18] on hospital delays and the unnecessary stay was initiated to be excavated in every hospital, whether it would be general, speciality or super-speciality.

RECOMMENDATIONS:

1. Automatic ticket vending machine in the OPD ticket counter
2. A proper que management system in the OPD.
3. More equipments and the manpower in the investigation departments.
4. Single-window system for all investigations
5. Flexes, banners, guide-maps, miking in local vernacular, Rogi-Sahayata-Kendras can be increased to show the direction of different sections of the hospital so that a patient can easily access it.

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