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Research Article

Cancellation of Elective Surgeries in a Tertiary Care Hospital in North India

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ABSTRACT

Background: Cancellation of elective surgical treatments is a quality-of-care issue as well as a huge waste of health-care resources. Patients may experience emotional distress as a result of this, as well as difficulty for their families.
Aim: To find the significant reasons of cancellation of scheduled surgical cases.
Methods: A total of 300 elective operations in our institution were chosen. The completed surgeries were planned on the scheduled operation day, and the anaesthesiologist noted down a list of cancellations along with their reasons.
Results: A total of 300 patients were scheduled for surgery. A total of 60 patients were cancelled, resulting in a 20% cancellation rate. Lack of operational time was the most prevalent reason for cancellation.
Conclusion: The majority of the reasons for cancellation should have been avoided with proper list preparation and the surgical team's meticulous planning.

Preanesthetic examinations are performed on all patients scheduled for surgery well in advance of the procedure. Last-minute cancellations are arguably a quality-of-care concern and a considerable waste of health-care resources [1]. Cancellation rates and reasons vary by center [2-3] and are multifaceted. It's possible that 10% to 40% of scheduled elective procedures may be cancelled before they take place [1-5]. The most important reason for the cancellations is a shortage of theatre time [3-7]. Cancellations due to patient-related problems, medical reasons, or administrative reasons are among the other causes [4–8]. Due to delayed commencement, sluggish turnover, unforeseen surgical/anesthetic issues, or personnel shortages, a surgical list may overrun [9]. The goal of this research is to figure out why elective procedures are being cancelled.

Methods

This randomized prospective study was conducted on elective surgical patients for a period of 6 months in a pre-pandemic era (in 2019), before the commencement of COVID-19, at the Government Medical College, Srinagar. During this period, data was collected from only one operation theatre of the Department of General Surgery. This study included 300 subjects who were scheduled for elective surgeries

Inclusion criteria

Subjects scheduled for different elective surgical procedures during the study period at the major OT.

Exclusion criteria

- cases that underwent emergency surgery
- cases that appeared in "definite list schedule" but developed some medical problems overnight.
- procedures that did not require an anesthesiologist.

All patients had undergone a pre-surgical anesthetic assessment. Upon obtaining the pre-anesthetic clearance, the department of general surgery had booked these patients for scheduled surgery.

Except for public holidays, scheduled procedures were only performed from Monday through Saturday. Before surgery, both patients were tested at our hospital's pre-anesthesia clinic. High-risk patients with poor general health, co-morbidities, problematic airways, and planned

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long-term procedures were assessed one day before to surgery. By the afternoon, the surgeons had completed the operating list for the next day and brought it to the operating room. Elective surgery was deemed terminated if an operation scheduled for the previous day was not completed on that day. A list of completed operations that were scheduled on the day of surgery, as well as a list of cancellations and their reasons were noted down. Patient age, gender, diagnosis, intended surgery, surgical specialty, and causes for cancellation were all jotted down.

Cancellation was cited as a reason for cancellation owing to a lack of operating time, patient-related problems, administrative or technological reasons, medical reasons, and a staffing shortage. Cancellations owing to a shortage of operating room space included surgeries that were postponed owing to a late start, sluggish turnaround, an overbooked list, or unforeseen problems in operation. Cancellations due to patient-related issues included patients who did not show up because they were incapable, had not fasted, or were not prepared. Air conditioner failure, shortage of medicines, etc., were among the administrative related factors. Lung infections, chronic illnesses, BP, plasma sugar, continuing of anticoagulants, and arrhythmias were among the medical reasons for cancellation.

Statistics

The data was compiled and input into a spreadsheet (Microsoft Excel) before being exported to SPSS Version 22.0's data editor (SPSS Inc., Chicago, Illinois, USA). Data descriptive statistics, such as percentages and means, were presented. Continuous data was reported as mean +/- SD, while categorical variables were reported as proportions.

Results

The total subjects scheduled for elective surgery was 300. The total number of cancellations 30 (20 %). The mean age (± SD) of the canceled operations was 45.5 (± 16) years, with males and females representing equal number of cancellations.

Among the canceled cases, the majority of cancellations belonged to the department of orthopedics (40 %) followed by the oral and maxillofacial surgery department (5%) (See, Table 1 and Graph 1).

The most prevalent reason for cancellation (40%) was a lack of available time, while the least common reason was a personnel shortage (10 percent) (See, Table 2 and Graph 2).

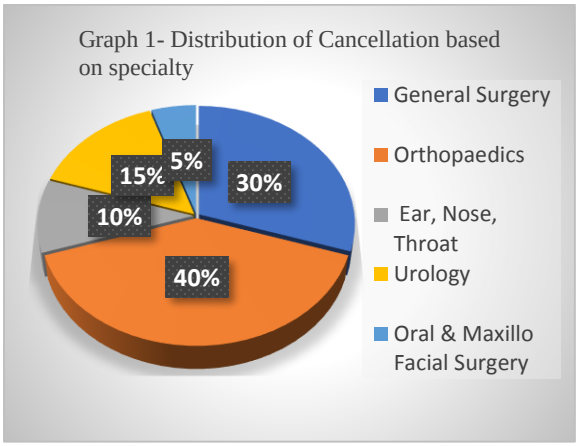

Table 1- Distribution of Cancellation based on specialty

Department Cancelled	Frequency (n=300)	Percentage (%)
General Surgery	90	30%
Orthopaedics	120	40%
Ear, Nose, Throat	30	10%
Urology	45	15%
Oral & Maxillofacial Surgery	15	5%

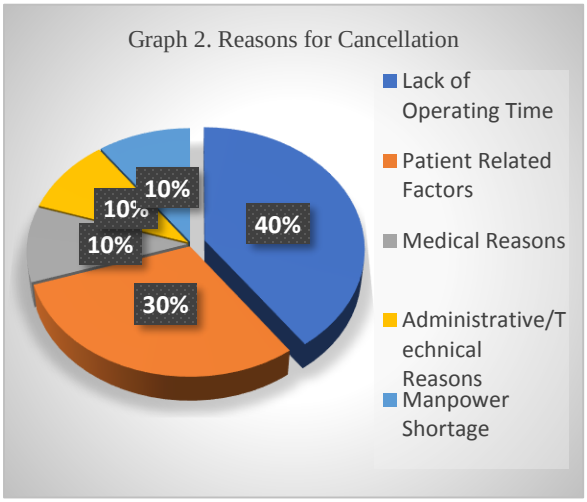

Table 2- Reasons for Cancellation

Causes	Frequency (n=300)	Percentage (%)
Lack of Operation Timing	120	40%
Patient Related Factors	90	30%
Medical Reasons	30	10%
Administrative/Technical Reasons	30	10%
Manpower Shortage	30	10%

Discussion

The cancellation rate in the present study was 20%, similar to the cancellation rates in other parts of the world. According to Mohamed Elarref et al., the cancellation rate was 13.4 percent [7]. Other research found comparable findings, 13.2 percent cancellations at an Australian Hospital [6], 13.2 percent cancellations at a Californian Hospital [10], and 13 percent cancellations at a Chicago Hospital [11]. Rakesh Garg et al. found 30.3 percent cancellations [2]. According to a report undertaken by Rajender Kumar et al., 17.6 percent of cancellations occurred in a 500-bed government hospital [4].

The most prevalent etiology for cancellation/ delay of surgery in our research was lack of operating time, which was similar to other researches like Rakesh Garg et al. [2], Rajender Kumar et al. [6], Schofield WN et al. [6], Vinukondaiah K [12], Zafar A [13] and CH Chui et al. [14].

The shortfall of operating time was caused by overscheduling of patients, underestimating the time taken by the surgeon, procedures conducted by new residents, and unforeseen complications of earlier concerns. The operating surgeon cannot obtain the assistance he or she need due to a shortage of support workers; the absence of helpers has also led to this. Slow case turnover due to cleaning delays in between surgeries, delays in transferring cases out of the OR, a lack of team cohesion, and staff exhaustion due to constant case assistance were also factors causing a shortage of operational time, comparable to other research findings [4-6,13]. Some factors couldn't be avoided in our setting as our's is a teaching hospital. Much of the other causes, on the other hand, could have been prevented with better planning, scheduling, and team cohesiveness.

In our research, the second common explanation for cancellation was patient-related factors. Abderrazak Sahraoui et al. found, "that 55.8% of cancellations were due to patient-related factors [3]". According to some studies. [8], patients were responsible for 25.3 percent of cancellations. Caesar U et al. [15] found that a variety of patient-related causes caused 33 percent of cancellations.

Poor planning, fear, and a rapid worsening of existing comorbid diseases were identified as causes for inpatients not to show up for surgery, while the same could not be said for outpatients. Anxiety, adverse familial circumstances, or a lack of awareness regarding procedures may all contribute to patients' reluctance to have surgery at the last minute. These issues could have been avoided if the surgical team had communicated more with the patients to instill trust in them.

In Caesar U et al.'s report, 2% of patients failed to turn up for their scheduled surgery appointment [15]. Similar findings were reported in other studies too [2,11,16,17]. Preoperative orders that are not observed or patients that are not properly informed are also topics that should be addressed to avoid cancellations [14-15]. According to Paschoal et al., 54.3 percent of overall canceled cases are attributed to the patient's absenteeism due to a lack of knowledge about the surgical date, health complications such as respiratory tract infections, and social factors [18].

Administrative or technological factors such as AC failure, accounted for around 10 percent of total cancellations in our report. Though power outages [8,19], water outages, a lack of sterile cloth, instruments, and medications were cited as reasons for cancellation in some hospitals [5], none of these problems were mentioned in our hospital during this time span. In their results, Ezike H.E et al. and Garg R et al. both found that linen scarcity may be the cause in certain patients [2,8].

In our research, 10 percent of cancellations were due to medical conditions. Despite the fact that patients have a thorough pre-anesthetic examination, some conditions can worsen [7]. Overburden, exhaustion, and noisy conditions near the pre-anesthesia clinic can cause such results to be missed during the evaluation, which could be discovered on the surgery day only, resulting in last-minute delay. Health causes accounted for 33.73 percent of cancellations, according to Dimitriadis PA et al. [20]. Health factors account for 65.1 percent of cancellations [21], according to Chamisa et al. Medical reasons for cancellations have also been recorded in other studies [2,12].

Staffing shortages have been identified as a significant issue in other studies [22-24], but they led to fewer cancellations in our study.

Orthopaedics and urology specialties had the largest number of delays when compared to otolaryngology and general medicine departments in the current study. In their study, Chalya PL et al. discovered that the general surgery had more cancellations [5]. In one research [6], the otolaryngology department had the most cancellations.

Conclusion

Although the average cancellation rate is smaller than other studies done in developing countries, the bulk of the cancellation causes should have been prevented. Good presurgical planning and coordination, increased personnel availability, and competent management can all lead to more efficient resource use and avoid patient misery. Such actions should be carried out on a regular basis.

Limitations

1. The study could have been better if the sample size were larger

2. It mainly focused on reasons for cancellation on the day of surgery in a government teaching hospital; hence the results and suggestions cannot be generalized and applicable in institutions with different operational policies.
3. Our study was done before the commencement of novel coronavirus pandemic. At present, a large number of surgeries are cancelled or delayed due to disruption caused by COVID-19.

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