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Research Article

AN ANALYSIS OF LAST-MINUTE SURGICAL OPERATION CANCELLATIONS: PREVALENCE AND UNDERLYING CAUSES

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ABSTRACT

Background: Rising healthcare expenditures have emphasized the need for operational efficiency in hospitals, with operating room cancellations being a significant contributor to resource wastage. This study investigates the causes of surgical cancellations at Gouri Devi Institute of Medical Science and Hospital, West Bengal, and offers insights for improvement. Methods: A retrospective review of 8,256 operations conducted between 2018 and 2023 identified 166 cancellations (4%). Patient records were analysed to classify reasons for cancellations, and a comprehensive checklist was developed through international studies and local expert validation. Statistical analysis was performed using SPSS version 11.5, with a significance threshold of 0.05. Results: The primary reasons for cancellations included high-risk underlying diseases (24.7%), patient non-attendance (12.8%), changes in clinical status (9.1%), insufficient operating room time (9%), patient dissatisfaction (7.1%), and incomplete Nil Per Os (NPO) compliance (7.7%). Patient ages ranged from one month to 102 years, with a mean age of 50.6 years. Cancellations caused increased costs, disrupted operations, and negatively impacted patient care. Discussion: High-risk conditions and patient non-attendance emerged as the leading causes of cancellations. Enhanced pre-operative evaluations, patient education, and better scheduling strategies are recommended to mitigate these issues. Operating room inefficiencies due to prolonged procedures and technical faults were also noted, highlighting the need for systematic improvements in hospital operations. Conclusion: Addressing the identified causes of cancellations through collaborative efforts, improved communication, and robust operational management can significantly reduce cancellations and enhance hospital efficiency. Implementing these changes may lead to improved patient outcomes and reduced healthcare costs.

Keywords: Surgical Operations, Patient Complaints, Surgical Procedures, Frequency, Financial Status.

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INTRODUCTION

Healthcare expenditures have risen so significantly that nearly 50% of government budgets are now allocated to hospitals [1], largely due to the escalating costs of these services. Enhancing the financial sustainability of hospitals can be achieved by optimizing the performance of operating rooms while maintaining high standards of care. Operational efficiency plays a critical role in determining hospital expenses. To effectively manage operating rooms and attract skilled surgeons and staff, large hospitals invest substantial resources.

One frequent contributor to hospital inefficiency and resource wastage is the last-minute cancellation of surgeries. Research conducted in various countries has revealed that between 4% and 16.6% of surgeries are cancelled in regions such as Hong Kong, Spain, Pakistan,

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India, and Australia. Factors contributing to these cancellations include delays caused by earlier procedures, patients not arriving for their scheduled surgeries, lack of preparedness, inadequate ICU bed availability, and changes in patients' clinical conditions. Similarly, studies from hospitals in Iran, specifically in Uremia [2] and Tehran, reported cancellation rates ranging from 10.9% to 18.6%, primarily due to high-risk medical conditions, adjustments to surgical plans, and issues involving patients. Additionally, many surgeries were scheduled outside of regular working hours, particularly mornings.

Examining the implications of surgery postponements reveals a host of challenges. On one hand, delays lead to increased expenses for patients, healthcare systems, and insurance providers. On the other hand, inefficient utilization of hospital beds negatively impacts patients requiring immediate care [3]. Furthermore, surgery postponements can cause emotional and psychological distress for patients. Prolonged fasting while awaiting surgery is particularly detrimental for vulnerable groups, such as infants and elderly individuals. Cancelled procedures also disrupt the organization of operating rooms, result in wasted time, escalate operational costs, and raise the risk of hospital-acquired infections [4,5].

MATERIALS AND METHODS

At Gouri Devi Institute of Medical Science and Hospital, Rajbandh, West Bengal, between 2018 and 2023, 166 operations (4%) were cancelled out of a total of 8,256 procedures. Patient records were reviewed to collect detailed information on all cancelled surgeries. A comprehensive review of relevant international studies was conducted, followed by initial categorization to guide the development of a checklist. To refine this checklist, data from 25 patient profiles were examined to establish the primary framework [6].

Initially, 15 potential reasons for cancellations were identified and included in the checklist. After further refinement, six main reasons were finalised (refer to Table 1). To ensure the validity of the questionnaire, feedback was obtained from five qualified experts with at least one publication on the topic, along with three hospital administration professors, four members of the hospital's clinical governance committee, and two staff members from the vice-rector of health at state universities. Reliability testing was conducted by two researchers independently documenting data from 30 surgeries using the checklist simultaneously.

The collected data were analysed using SPSS software, version 11.5. Descriptive statistics, including frequency and percentages, were used for analysis. A p-value of 0.05 was considered the threshold for statistical significance [7].

RESULTS

According to our study of patient files, the reason for cancellation hadn't been mentioned in 30.8% of cases.

Patient ages ranged from one month to 102 years for those whose operations were cancelled, with the average being 50.6. 67 patients were women (44%) and 96 were men (60%).

Table 1: Reason and percentage of cancellations of operations

Reasons of operations cancellation	Percent
High-risk underlying disease	24.7%
Patient's non-attendance	12.8%
Change in clinical status	9.11%
Lack of Operation Theater time	9%
Patient's dissatisfaction	7.1%
Patients' incomplete NPO time	7.7%

Table 2: Distribution of age and sex

Sex Age	Male		Female		Total
	Frequency	Percent	Frequency	Percent	
Under 20	34	63.55	22	40.48	56
21-50	60	58.33	47	45.70	105
51-80	63	59	48	45	111
Above 80	42	65.51	25	38.52	67
Total	199		142		339

DISCUSSION

High-risk underlying diseases accounted for 24.7% of all operations that were cancelled. Anesthesia-related reasons have been attributed to high-risk diseases in 68.9% of patients [8]. In addition to underlying diseases with a high level of risk, there are many reasons

for canceling operations. If the physician schedules an operation without taking into account the patient's underlying illness or if the patient's condition prohibits the operation (13), this type of error will occur. [9] It is recommended that all patients whose surgery is recommended be evaluated for high-risk underlying conditions in order to resolve this issue and minimize the frequency of cancelled operations. In addition to patient absence (10.6%), non-attendance is the second most frequent cause of cancellations. An estimated 24.7% of all cancelled operations were caused by high-risk underlying diseases. Sixty-eight percent of patients (12) had anesthesia-related reasons due to high-risk diseases. Many reasons can lead to a cancellation of an operation, in addition to underlying diseases that carry a high level of risk. Several types of errors can occur, including scheduling an operation without considering the patient's underlying illness or a condition that prevents the operation [10]. This may explain the difference. Nurses should explain to patients all the complications that may arise from the cancellation of an operation. Studies conducted in Spain, Australia, (1, 4, 10), have found that the change of clinical status is a major factor in cancellations. The third most frequent reason (7.9%) in our study was this inevitable issue. Operation theater time is the fourth most common reason for cancellations (7%). [11] There have been similar findings reported in Yazd, Tehran, China, Spain, Australia and India (1, 4, 7, 10-12). All conducted studies consider the above-mentioned reason as one of the major causes of cancellation. When a surgeon's skill, speed, or type of surgery causes a high number of surgeries to be listed on the operating room waiting list, it may be caused by the type of surgery, the number of surgeries on the waiting list and the number of surgeries on the operating room waiting list. Teaching hospitals are often involved in operations as well as training assistants, which results in the operation being prolonged. [12] There is no precise way to predict the duration of operations. During operations, the surgical team may face problems due to the unpredictable nature of certain operations or the unpredictable nature of certain operations. Calculating the average duration of each operation allows us to avoid time shortages for other operations waiting in line. [13] A relatively high frequency (5.8%) of surgery cancellation was caused by patient dissatisfaction in the present study. It is important to note that this factor has not been discussed in other studies, possibly because it merges with similar factors such as non-attendance by patients. Nurses can reduce cancellation frequency by providing complete information about the operation, its conditions, and necessity, and informing the patient of the right to accept or reject the operation. [14] Unpreparedness among patients and incomplete Nil Per Os (NPO) time are other important causes of cancellations (5.5%). There are no other studies that mention this reason. As the present study investigated only one hospital specialty, this difference may be due to this. It will be possible to drastically reduce the number of cancellations of operations if the doctors pay attention to and remind their patients to do so. [15] Other than the above reasons for cancellation of operations, technical faults and equipment failures also account for 4.6%. In order to prevent these problems, the hospital's departments and paraclinical units need to be coordinated, the hospital and surgeons need to work together, and a list of the necessary documents for patients need to be provided and checked.

CONCLUSIONS

The findings of the current research suggest that a significant portion of cancellations can be avoided. By ensuring the availability of necessary equipment, minimizing technical issues, timely maintenance and calibration of medical equipment, enhancing collaboration between Para-clinical units and operating rooms, improving communication among physicians, patients, and nurses, and accurately documenting the reasons for cancellations by operating room staff, it is possible to decrease the number of cancellations and enhance the effectiveness of hospital operating rooms.

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