

REASONS FOR CANCELLATION OF EYE OPERATION ON THE DAY OF INTENDED SURGERY: A QUALITY IMPROVEMENT PROJECT

AAQIL B¹, SIDDIQI A^{2*}, NAZNEEN Z³, FAISAL Z¹, ZAHID SA¹, KHAN MQ¹

¹Department of Ophthalmology, Ayub Teaching Hospital, Pakistan

²Department of Pharmacology, Ayub Medical College, Pakistan

³Department of Community Medicine, Ayub Medical College, Pakistan

*Correspondence author email address: drafsheenfaisal@gmail.com

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Abstract: Persistent issues with surgery cancellations lead to strain on the healthcare system, leading to a need for more systematic changes to improve efficiency, resource management, and patient care. **Objective:** Thus the objective of this audit was to find out the burden of cancelled cases and to find out the reasons for their cancellation in a tertiary care hospital. **Methods:** This research was conducted from 1st Jan 2023 to 31st Dec 2023. A census was done of all the cases on the OT list during this period. All the data was collected on a structured proforma and analyzed on SPSS 23 version. **Results:** Out of the total cases on the OT list, 65(12.47%) cases were canceled. The median age with the interquartile range was 19(50) years. The majority of them were males 39 (60%) while females were 26(40%). In the first cycle, 11(61.1%) of canceled cases were because of medical reasons, 3(16.7%) didn't turn up, 1(5.6%) had a change in plan, and 3(16.7%) were due to equipment failure. In the 2nd cycle, out of canceled cases, about 21(44.7%) were because of medical reasons, 2(4.3%) didn't turn up, 23(48.9%) had plan changes, (2.1%) were due to equipment failure with a statistically significant difference between the reasons of the 1st and 2nd cycle ($p=0.002$). **Conclusion:** This study concludes that the most common reasons leading to the cancellation of operations were medical, equipment, didn't turn up, and plan changes. All are avoidable and careful following of the guidelines can significantly result in a reduction of cancellation of cases.

Keywords: Reasons, Cancellation, Postponement, Eye Operations.

Introduction

Canceling an operation on the day it's scheduled can be stressful and disruptive for both the patient and the medical team. (1) Persistent issues with surgery cancellations lead to strain on the healthcare system, leading to a need for more systematic changes to improve efficiency, resource management, and patient care. (2, 3) Ongoing problems with cancellations led us to reassess and adjust policies, improve scheduling systems, and invest in better management practices. (4) Addressing these issues requires effective management strategies and clear communication to minimize disruptions and maintain quality care.

Thus the objective of this audit was to find out the burden of cancelled cases and to find out the reasons for their cancellation. Due to the non-availability of standard clear-cut guidelines, results from Kumar R, Gandhi R study on Reasons for cancellation of operation on the day of intended surgery in a multidisciplinary 500-bed hospital were used as reference. (5)

There is no evidence of any such audit in the region, so it will provide us the local evidence of the reasons for the cancellation of ophthalmic surgery and also help to improve the quality of care in other setups due to some common factors. The data will help in deciding strategies and recommendations to bring changes in current protocols to avoid undue stress on the patient, health care personnel, and administration.

Methodology

This clinical audit was conducted in Ophthalmology Unit A of Ayub Teaching Hospital Abbottabad from 1st Jan 2023 to 31st Dec 2023 after obtaining approval from the Institutional Ethical Review Board. The audit was done in two sessions, each of 6 months duration. A census was done of all the cases on the OT list during this period. During the first session, several canceled cases and their reasons were noted every week including public holidays from the final OT lists sent to operation theatres on the day of intended surgery, and were cross-checked with OT and ward registers. A Cancellation on the day of intended surgery was defined as, any operation that was scheduled on the final OT list (generated at 11:00 pm on the previous night) or was subsequently added to the list but was not performed on that day. The reasons for cancellation studied included: patient did not turn up (the patient didn't arrive on the day of operation due to any reason); Change in surgical plan (surgery replanned or no need of surgery as decided in the round); Equipment failure (non-function of equipment, Lack of vitreous cutter or intraocular lens or suture); Medical reasons (Uncontrolled Hypertension or Diabetes, Chest infection, Cough, Low Hemoglobin, Cardiac problems). Then in the first week of the second session, multiple meeting sessions were done to define guidelines

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from Kumar R et al study which were taken as standard for reference Strategies were then developed to be followed to prevent further cancellation of cases based on data from the first session. All the data of both sessions was collected on a structured proforma containing information on the name of the patient, age, gender, disease, name of the intended procedure, operation canceled or not, and the reasons for cancellation. Analysis was done by using SPSS version 23. Frequencies and percentages were calculated for categorical variables while Mean±SD for quantitative variables like age. Comparison between reasons for cancellation of operations between the first and second session of the audit was assessed by employing the Chi-square test at a 5% level of significance.

Results

The total number of patients on the OT list in both audit sessions was 521, out of which 65(12.47%) cases were canceled. The age of the participants was not normally distributed so the median age with the interquartile range

was 19(50) years. The majority of them were males 39 (60%) while females were 26(40%). The majority reported from far-flung areas 37(56.9%) while 28(43.1%) were from Abbottabad and premises.

The first cycle of audit: Out of 521, the number of patients on the OT list in the first cycle was 257, of which 18(7%) cases were canceled. Out of 7% cancelled cases about 11(61.1%) were because of medical reasons, 3(16.7%) didn't turn up, 1(5.6%) had change in plan, 3(16.7%) were due to equipment failure.

The second cycle of audit: The total number of patients on the OT list was 264, out of which 47(17.08%) cases were canceled. Out of 17.08% canceled cases about 21(44.7%) were because of medical reasons, 2(4.3%) didn't turn up, 23(48.9%) had a change in plan, (and 2.1%) were due to equipment failure.

On comparison of reasons for cancellation between the first and second cycle of audit, a statistically significant difference was observed (p=0.002)

Table No. I: Comparison of reasons for cancellation of cases

Reasons for cancellation	Category of Audit		Total	P value
	1 st cycle	2 nd cycle		
Medical	11(61.1 %)	21(44.7%)	32(49.2%)	0.002
Patient didn't turn up	03(6.7%)	2(4.3%)	5(7.7%)	
Change in Plan	01(5.6%)	23(48.9%)	24(36.9%)	
Equipment failure	3(16.7%)	1(2.1%)	4(6.2%)	
Total	18(100.0%)	47(100.0%)	65(100.0%)	

Discussion

Cancellation of surgery at the 11th hour can be seen in several hospitals with different departments all over the world and there are several reasons. However, there should be a low rate of cancellation of operations for efficient working of surgical service. Cancellation can have several effects on the patient including worsening condition, complications, increased pain or discomfort, stress and anxiety, disappointment, uncertainty, rescheduling, financial impact, impact on daily life, and impact on family as well.

The cancellation of surgeries at the same time can have several significant effects on the healthcare system as well, impacting various aspects of hospital operations and broader health services. These include resource utilization, increased workload, and revenue loss, problems with patient flow and access, and impacts on staff morale.

In this audit, the most common reason for cancellation of operation on the day of intended surgery was medical reasons, the most common being uncontrolled hypertension. 11 (61.1 %) patients fell into this category. Pai, Aruna et al (4) reported an accumulative cancellation rate for a 3-year study duration of about 2.65%. Out of the total patients whose surgery got canceled 34.3% had systemic illness, which was the most common cause for the cancellation on the day of surgery. A study by Bamashmus et al (5) also presented similar findings, a total of 234 (12%) cases were canceled due to various reasons on the day of surgery. The main reason for the cancellation was poor control of

systemic hypertension. This is consistent with our audit's findings. Therefore, thorough pre-op evaluation and appropriate referrals to internists should be done.

The next most common reason for the cancellation of surgery was that the patient did not show up on the day of surgery. 3 patients (16.7%) fell into this category. The reasons for this are not known as the patient didn't come back to the hospital and also didn't receive phone calls. Fernando et al (6) conducted a similar study where the patient canceling on the day of surgery accounted for 11.4% of the total cancellations. An interesting reason for this was studied by Basson and colleagues (7), which assess predictors of patient nonappearance for scheduled operations at a hospital, and they found psychiatric or substance abuse problems to be statistically significant predictors of patient no show for surgery. However, our audit differed from this as psychiatric evaluation of the patients was not done pre-operatively. Efforts should be made to improve patient communication and facilitate their compliance with scheduled procedures.

Equipment failure was another reason for surgery cancellation, comprising 16.7% of the total cancellations (3 patients). This included the unavailability of surgical instruments and improper functioning of operating room equipment. A study by Kumar R et al (1) showed that 4.1% of patient's surgeries got canceled due to equipment failure. OT staff should be encouraged to ensure that the correct surgical instruments are available and maintenance staff be notified in case of equipment failure. Change in surgical

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plan comprised a small percentage of 5.6% (1 patient). This was due to junior doctors giving a surgical plan without a senior consultation. This small proportion was also consistent with the study conducted by Kumar R et al (1). After the first audit cycle, various recommendations were given —

1. To reduce the number of patients who left against medical advice there should be proper counseling in outpatient departments before admission and during patients' stay in the ward and in case of refusal by the patient, the name should not be entered on the OT list.

2. For patients with known hypertension and diabetes it was suggested to make a Proforma (including 6 hourly BP records for the last 1 week, HBA1c levels, and RBS) that should be given to the patient in the ward. No patient will be entertained for admission without that Proforma having normal profiles.

3. There should be a pre anaesthesia assessment of patients for fitness for general anaesthesia and stress management of all the patients one day before surgery.

4. There should be proper clinical evaluation for cough and anemia.

The second audit cycle was conducted after 6 months of the first audit. A total of 47 surgeries were canceled during this time. The surgery of 21 patients (44.7%) was postponed due to medical reasons. This is an improvement as compared to the previous cycle, where 61.1% of the patients could not be operated upon due to systemic illnesses.

The percentage of patients failing to show up on the day of surgery also decreased, from 16.7% to 4.3%. Similarly, only 1 patient (2.1%) could not get their surgery done due to equipment failure. Hence, there was an improvement in the quality of care provided by the hospital staff.

In contrast to the previous cycle, there was a significant increase in the cancellation of operations due to a change in surgical plan, from 1 to 23 patients (5.6 to 48.9%). This unexpected increase was because newly inducted junior residents gave inappropriate surgical plans without consulting senior doctors. This led to the cancellation of surgeries on the day of the intended operation. In the previous cycle, only 1 patient was canceled due to this reason, hence the recommendations given after the first audit did not include junior residents running every single case by their senior fellows. This is something to be taken under careful consideration, and measures should be taken to ensure a proper chain of command so that this can be prevented in the future.

This audit had certain limitations including lack of generalizability as it was conducted in a single-center tertiary care hospital and differences in protocols in medical management across various centers. Furthermore, long-term effects were not studied in this audit.

Conclusion

This study concludes that most of the reasons leading to cancellation of operations were avoidable and careful following of the guidelines can significantly result in reduction of cancellation of cases on the day of operation. This will help to improve the quality of delivery of care and significantly reduce the stress among the patients and health professionals by decreasing the burden on the health system.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate.

Approved by the department Concerned.

Consent for publication

Approved

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Conflict of interest

The authors declared an absence of conflict of interest.

Authors Contribution

BUSHRA AAQIL (Assistant professor)

Data Analysis

AFSHEEN SIDDIQI (Associate professor)

Final Approval of version

ZAINAB NAZNEEN (Assistant professor)

Revisiting Critically

ZAINAB FAISAL (Senior Registrar)

Drafting

SIKANDER AHMED ZAHID (House officer) &

MUHAMMAD QATAADA KHAN

Concept & Design of Study

References

- Kumar R, Gandhi R. Reasons for cancellation of operation on the day of intended surgery in a multidisciplinary 500 bedded hospital. *Journal of Anaesthesiology Clinical Pharmacology*. 2012;28(1):66-9.
- Bheemidi A, Kailar R, Valentim CCS, Kalur A, Singh RP, Talcott K. Risk Factors For Cancellation of Ophthalmic Surgery. *Investigative Ophthalmology & Visual Science*. 2022;63(7):2786–A0116-2786–A0116.
- Maa A, Sullivan BR. Medical reasons for same-day cancellations in ophthalmic surgery at a VA hospital. *Fed Pract*. 2010;27:17-21.
- Pai A, Sankaranathan R, Prasad S, Bhanumathi H, Koshy TA, Shekhar M. Causes Behind Cancelled or Postponed Cataract Surgeries in a Tertiary Eye Care Hospital: A Retrospective Analysis. *Journal of Ophthalmic Science and Research*. 2023;61(2):196-202.
- Bamashmus M, Haider T, Al-Kershy R. Why is cataract surgery canceled? A retrospective evaluation. *European Journal of Ophthalmology*. 2010;20(1):101-5.
- Fernando BS, Cannon PS, Mohan M. Cancellation of surgical day cases in an ophthalmic centre. *Acta Ophthalmologica*. 2009;87(3):357-8.
- Bosson M, Butter T, Verma H. Predicting patient nonappearance for surgery as a scheduling strategy to optimize operating room utilization in a Veterans Administration Hospital. *Anesthesiology*. 2006;104:826-34.



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