



Research Paper

A cross sectional study on frequency & reasons of Cancellation of Surgeries in hospitals of Kashmir India

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ABSTRACT

The present study was conducted to identify the frequency and reasons of cancellation of surgeries in 20 Hospitals in Kashmir province India. A retrospective evaluation of the rate of cancellation of surgeries in 20 Hospitals in Kashmir province India was performed. The data of scheduled surgeries from 15 different surgical specialties was collected from January to December 2023. Frequency and reasons of cancellation of elective surgical cases in different specialty were studied with a view to recommend suggestions for further improvement in future. The whole data was tabulated and analyzed on SPSS -16. There are 100 operating rooms (OR) in 20 hospitals and during the year 2023, a total of 19052 surgery cases were listed, and 1492 (7.8%) cases were cancelled. Contribution to total cancellation was highest in orthopedic 35.2% followed by general surgery 27.5%, obstetrics 6.7% and ENT 5.0%. According to category, 44.9% rate of cancellation was patient related, 21.1% facility related, 9.0% due to improper work-up, 1.3% associated with anesthesia, 4.8% related to surgeons, and 18.7% others and not recorded reasons. Present study found 7.8% cancellation rate in 20 Hospitals in Kashmir province India and three most common causes for cancellations were patients related, facility related and improper work-up.

KEY WORDS: Operating rooms, Cancellation of surgeries, Kashmir, Improper work-up.

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I. INTRODUCTION

Government Hospitals provide health care free for the Indian citizens. In Jammu and Kashmir there are also the hospitals run by the State. However the people complaint more about poor healthcare facilities. Although the state has the highest number of hospitals in the country, next only to Rajasthan. Rooney and Ostenberg mentions that hundreds of patients from the state seek medical help in other parts of country every year due to poor infrastructure and lack of doctors [1]. There are 20,306 government hospitals in the country. Rajasthan leads with 3,145 hospitals and Jammu and Kashmir stands at the number two with 2,812 hospitals. Going by the statistics, J&K has the higher number of health institutions in rural and urban areas than neighboring Himachal Pradesh (160), Punjab (240), and Haryana (159). Uttar Pradesh, the most populous state, has only 831 hospitals. Various hospitals across J&K are facing an acute shortage of doctors. As per rules, the health sector is the responsibility of the respective state governments. However, under the centrally sponsored National Health Mission, financial support is provided to states and Union Territories to strengthen the public health system, including support for infrastructure, human resource, drugs, equipment, based on the requirement proposed by the states in their programme implementation plan. None of the hospitals in J&K is accredited by the National Accreditation Board of Hospitals. Despite advertisements, doctors are not willing to work in J&K, mostly because of the salary offered and 'unprofessional environment in the state. Worldwide, operation theater (OT) practices and procedures are being closely monitored by the hospital administrators and governments, because the OR cost is continuously moving up and pressurizing the health care system. The OTs are characterized as vital hospital units, in terms of patient wellbeing as well as in fiscal impact. [2-3]

Operating theaters maximal utilization is the main goal of a good hospital to cope up with increasing number of patients. Cancellation of the surgeries on the scheduled day of operation is a documented problem worldwide. Particularly, case cancellations are main reason of ineffective utilization of OT time and it fritters away the resources. [4] The excellence of quality management and patient care of a hospital can be gauged by the rate of cancellation of elective surgeries.[5] The frequency of cancellation of surgeries in different parts of the world varies from 1%-30%.[6-7] An Australian study categorized the reasons of cancellation of operations as preventable and non- preventable and that study mentioned that 86.5% cases of the cancellations were potentially preventable and 13.5% had non- preventable reasons.[8] Unexpected cancellation of planned surgeries is a well identified quality issue in healthcare system that trouble patients, fritters away resources and augment the cost of healthcare.[9] Operation cancellation has multiple effects like wasted investigations and blood cross-matching, results in delay in patient care, and clinical outcome is also affected on the whole.[10] The present study was elucidated to ascertain the rate of frequency and reasons for cancellations of elective surgical procedures in 20 Hospitals in Kashmir province India.

II. METHODOLOGY

An observational retrospective cross-sectional study was conducted by the Department of Medical Technology Symbiosis Institute of Health Sciences Pune in collaboration with Directorate of Health Services Kashmir Province India and included only those surgical procedures that require anesthesia. The study was conducted in 20 hospitals of Kashmir including SKIMS Srinagar & medical colleges of Kashmir & their associated hospitals. . The data of scheduled surgeries from 15 different surgical specialties was collected from January to December 2023 on a specially designed case record proforma. The data required was obtained from daily operating theatre lists from all hospitals and was collected in the Department of Medical Technology Symbiosis Institute of Health Science. Total operation rooms for major cases, minor cases, emergency cases and day care operation room were recorded. The number of emergency cases, day care cases and routine cases were noted in 15 specialties of all hospitals separately. The numbers of cancelled cases and the reasons of cancellation of cases were noted. A cancellation was deemed following the discharge of operation list after 3:30 PM on the day before the scheduled day of surgery or on the day of surgery.10 Various reasons for cancellation of operative cases were categorized into patients' reasons, facility, work-up, anesthesia, surgeons, miscellaneous, and not recorded reason. The study as approved by Intuitional ethical Committee. The collected data was summarised in the form of tables & descriptive statistics were calculated on SPSS -16.

III.RESULTS

There are 100 OR in 20 Kashmir based Govt hospitals, out of these, 60 (60%) for major surgeries, 7 (7%) for minor Cases, 20 (26%) emergency OR inside main OR, 4 (4 %) emergency OR outside main OR, 9 (9%) for day cases OR outside main OR as shown below.

Table-I. Number of OR in 20 Kashmir based Govt. Hospitals.

Type of OR	%
OR for Major Cases	60 %
OR for Minor Cases	7%
Emergency OR inside main OR	20%
Emergency OR outside main OR	4%
Day cases OR outside main OR	9%
Total	100%

The cancellation rate is calculated as

Cancellation rate = No of cancellations / No of surgeries by the department x 100 .

The contribution to the total cancellation is calculated as

Contribution to the total cancellation = No of cancellation / Total No of cancellation x100.

During the period of January - December 2023, there were total 19052 scheduled surgery cases in 15 different surgical specialties and 1492 (7.8%) cases were cancelled. Out of total cancelled cases, Orthopedics' cases were 525 (35.2%), general surgery 410(27.5%), obstetrics 101 (6.7%), ENT 75(5.0%), ophthalmology 68(4.5%), and others as shown below.

Table-II: Distribution of scheduled surgical procedures and cancelled cases in each speciality.

Type of cases	Total cases	Cancelled Cases	Cancellation rate	Contribution to total cancellation
General Surgery	5525	410	7.4	27.5
P&B	714	70	9.8	4.7
Orthopaedics	3425	525	15.4	35.2
SPI	150	46	30.6	3.1
ENT	1658	75	4.5	5.0
Ophthalmology	1314	68	5.1	4.5
Neurology	312	54	17.3	3.6
Urology	525	32	6.0	2.1
Vascular Surgery	326	45	13.8	3.0
Pediatrics	715	36	5.0	2.4
Cardiac Surgery	20	4	20	0.2
Obstetrics	3815	101	2.6	6.7
Dentistry	175	5	2.8	0.3
OMF	218	9	4.1	0.6
Chest	95	10	10	0.7
Others	65	02	03	0.1
Total	19052	1492	7.8	100

Total numbers of operative cases cancelled were 1492. There were 26 different reasons for cancellation of the operations, and the causes for cancellations were categorized as patients related, 44.9%, facility related 21.1%, because of improper work-up 9.0 %, linked with anesthesia 1.3%, related with surgeons 4.8%, others/and not recorded reasons 18.7. The most common single reason for operation cancellation was failure of the patients to attend 23.7%, followed by from surgeon 4.8 %, blood was not arranged 5.3%, because of other medical conditions 4.8 %, on patients request 4.3%,for improper scheduling 5.0%, lack of equipment 3 % and others as shown below.

Table-III: Category-wise frequency of cancellations of operative cases

Categories No. of cases N (%)	Reasons of cancellation	No. of cases (%)
Patients Reasons	Patient failed to attend	354(23.7%)
	Patient request	65(4.3%)
	Recent intake of food	42(2.8%)
	Poor gut preparation	40(2.6%)
	High blood pressure	65(4.3%)
	Diabetes uncontrolled	36(2.4%)
	Upper respiratory tract infection	15(1%)
	Ischemic heart disease	21(1.4%)
	Acute illness	12(0.8%)
	Delay in transport of patient to OR	2(0.1%)
	Discharged from hospital	18(1.2%)
	Subtotal	670(44.9%)
	Facility	No recovery bed available
No critical care bed available		55(3.6%)
Improper scheduling		76(5%)
Lack of equipment		57(3.8%)
Emergency case needing theater		9(0.6%)
Blood not arranged		80(5.3%)
Subtotal		315(21.1%)
Work-up	Abnormal laboratory result	45(3%)
	Other medical condition	72(4.8%)
	Change in treatment plan	18(1.2%)
	Subtotal	135(9%)
Anesthesia	Unavailability of Anesthetist	20(1.3%)
Surgeons	Unavailability of surgeon 3 (0.24)	4(0.3%)
	Cancelled from surgeon 86(6.95)	68(4.5%)
	Subtotal 89(7.19%)	72(4.8%)
Others	Not recorded reason	280(18.7%)
Total		1492(100%)

IV.DISCUSSION

The rate of case cancellation is an effective reflector of OR facility utilization. Macario, [13] described that <5% case cancellation rate shows optimal utilization of the OR facilities. In Australia, department of health, set a benchmark of <2% for rate of case cancellation for any reason and cancellation because of medical conditions was set at <1% and patient failed to attend was <0.5%. [14]

In present study, rate of cancelation in selected Hospitals of Kashmir province India is found to be 7.8%. These results are compatible with few [10,15] and lower [7,16] and higher with several other studies.[6,15,17,18-19] Most of the case cancellations were because of patient-related issues, mainly, patient failed to show up. Contribution to total cancellation was highest in orthopedic 35.2%, followed by general surgery 27.5%, obstetrics 6.7% and ENT 5%. As per category, 44.9% rate of cancellation was patients related, 21.1% facility related, 9% because of improper work-up, 1.3% linked with anesthesia, 4.8% related with surgeons, and 18.7% others/and not recorded reasons. These results are in accordance with other related studies. [9,12,19,20]. Strategies to improve quality are required in specialties which have high case cancellations rate because of facility related issues, consequently to maximize the completion of scheduled surgical cases.[10] Lee et al., suggested that by implementing an integrated preoperative preparation system may decrease the rate of operation cancellations significantly.[21] It is observed that mostly junior surgeons prepare OT list, and they are unfamiliar with the procedure so they select those patients as well who needs further work up before going into surgical procedure or they don't require surgical intervention and they undeliberately prepare long OT list.[3] A study suggested that only consultant should book the patients for surgery and it would help in reducing cancellation rate especially in those cases which are selected because of wrong indication of surgery and furthermore, presence of consultant surgeon and consultant anesthetist during operation reduces frequency in delays.[22] Our study observed that 21.1% operations were canceled because of problems of the provision of the facilities like blood not arranged, improper scheduling, lack of equipment and no critical care & recovery bed available etc. However, these reasons are modifiable by arranging blood at least two days earlier before the scheduled surgeries and other reason of unavailability of beds and improper scheduling can be overcome by rationalizing the surgery list and by keeping in mind the available equipments and other facilities in the operation theatre and number of available recovery and critical care beds. A large number of cases (18.7%) were cancelled on account of others reasons or reasons were not recorded. This should be properly investigated and action should be taken for proper documentation of the cancellation record and other causes of case cancellation should be thoroughly investigated and documented. Another important reason in optimal utilization of OR timing is the start of the surgery on-time. A study reported that the majority of the operative procedures (93%) were not started at the expected time. [23] Delaying in start of operation could be because of multiple reasons starting from surgeons to anesthetists and OT nurses to equipment problems. All these reasons are manageable and modifiable and by good management of time and proper planning, we can save precious time of OR for operating another deserving patient. The delayed starts can be minimized with the help of anesthetists and surgeons to turn up on time. Several studies have shown that the preadmission clinic visit reduces the rate of cancellations of operations. [24,25] Lopez at al., have proposed that provision of preadmission clinic visit facility to highest number of patients and a use of standardized preadmission protocol may reduce the cancellation rate.[20]

We recommend that a well-established department of preadmission clinic should be functional in every hospital in Kashmir with regular employ like few qualified nurses, an experienced anesthetists, a consultant surgeon, Consultant physician and an ample number of OT Technicians. They should be rotated in the department on monthly basis. They should communicate with the patients, assess them for the co-morbidities, and try to alleviate their anxiety and it will also improve patients' satisfaction. There are few measures needed to reduce case cancellation rate and for improving OR utilization including comprehensive assessment of the patient prior to booking, making patient more aware about the planned surgical procedure and the preparation needed prior to the operation. Moreover, making sure that all surgical patients have been examined and discussed with the consultant ahead of booking, avoiding lengthy list of OT and reevaluating patients preceding to surgery.[18] In present study, we strongly feel that many of the cancelled cases could have been recognized earlier and by taking remedial steps in time, these cancellations should have been avoided.

V.CONCLUSION

It is concluded from the present that rate of cancelation in Kashmir based hospitals is 7.8% and there are 26 different reasons for cancellation of the operations, and three most common causes for cancellations were patient's related, facility related and improper work-up. There is need to further reduce operation cancellation rate for saving wastage of resources and precious time that can be used for providing more health care facilities to the population.

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