



E-ISSN: 2395-1958  
P-ISSN: 2706-6630  
IJOS 2023; 9(3): 252-255  
© 2023 IJOS  
<https://www.orthopaper.com>  
Received: 09-05-2023  
Accepted: 07-06-2023

**Javed Iqbal Wani**  
Junior resident,  
Department of orthopaedics  
GMC Jammu, Jammu  
and Kashmir, India

**Suraydev Aman Singh**  
Junior resident,  
Department of orthopaedics  
GMC Jammu, Jammu  
and Kashmir, India

**Mohd. Anwar Ahmed**  
Junior resident,  
Department of orthopaedics  
GMC Jammu, Jammu  
and Kashmir, India

**Mohamad Waseem Dar**  
Junior resident,  
Department of orthopaedics  
GMC Jammu, Jammu  
and Kashmir, India

**Saqib Ayaz**  
Junior resident,  
Department of orthopaedics  
GMC Jammu, Jammu  
and Kashmir, India

**Farid Hussain**  
Lecturer,  
Department of orthopaedics  
GMC Jammu, Jammu  
and Kashmir, India

**Corresponding Author:**  
**Saqib Ayaz**  
Junior resident,  
Department of orthopaedics  
Gmc Jammu, Jammu  
and Kashmir, India

## Observational study of delay in surgical management of trauma patients at a tertiary care hospital: A retrospective study

**Javed Iqbal Wani, Suraydev Aman Singh, Mohd. Anwar Ahmed, Mohamad Waseem Dar, Saqib Ayaz and Farid Hussain**

DOI: <https://doi.org/10.22271/ortho.2023.v9.i3d.3432>

### Abstract

Traumatic injuries are the major leading causes of death in India and in other countries. The delay in operating the trauma patients due to any reason may lead to increased morbidity, mortality, length of hospital stays and overall cost. It may also lead to dissatisfaction among patients and reflects the inefficiency of the operating staff.

**Purpose:** To decrease the delay in surgical management of trauma patients due to organisational reasons.

**Materials and Methods:** The present retrospective observational study was conducted in the Department of Orthopedics, GMC Jammu, over a period of seven months with the aim assess the magnitude and causes of the cancellation of elective surgical cases in a tertiary hospital. The data from 452 patients were collected and analysed.

**Results:** The mean age of the study subjects was  $41 \pm 15.5$  years. The majority of the study subjects were males (67.2%), most of the patients were living in rural area (64.2%) and 69% subjects had cancellation of surgery. Elective case cancellation rate in our study was 31% and lack of OT space was major contributing factor in delay of the surgery.

**Conclusion:** The present study concluded that majority of the surgical delays were due to organizational reasons which are avoidable and there is a room for improvement and most importantly the patient care will have a positive outcome.

**Keywords:** Trauma, injury, surgery, delay, health and treatment

### Introduction

The concept of patient safety is a new healthcare discipline. Traumatic injuries are the major leading causes of death in India and in other countries. Despite the advancements in medicine and surgery, mortality and morbidity are the major problems globally <sup>[1]</sup>.

It is observed that trauma is a major cause of mortality and disability worldwide <sup>[2]</sup>. Surgeries whether elective or emergency are scheduled after optimization / minimal preparation. The literature suggests that there is limited access to safe, timely and affordable surgical care <sup>[3]</sup>.

If there is a delay in operating the trauma patients due to any reason, this may lead to increased morbidity, mortality, length of hospital stays and overall cost. It may also lead to dissatisfaction among patients and reflects the inefficiency of the operating staff. It is reported that there are three main delays in surgical care, i.e. delay in pre-hospital care, delay in transfer of the patient and delay in the definitive treatment/care/surgery <sup>[4,5]</sup>.

Thus, the present study aimed to assess the magnitude and causes of the cancellation of elective surgical cases in a tertiary hospital.

### Material and methods

The present retrospective observational study was conducted in the Department of Orthopedics, GMC Jammu, over a period of seven months (January 2022 to July 2022) after taking the ethical permission from the concerned authority. In the present study the data of 452 patients were screened. The patient's age, gender, planned procedure, reasons for cancellation and case cancellations were recorded.

**Inclusion criteria**

1. Patients with traumatic injuries and planned for surgical management.
2. Patients with age greater than 18.

**Exclusion Criteria**

1. Patients Planned for elective surgery.
2. Patients with age less than 18.

The data was collected from medical record section and causes of cancellation were collected for the time period mentioned. Collected study was rechecked for any incomplete content, error or any discrepancy.

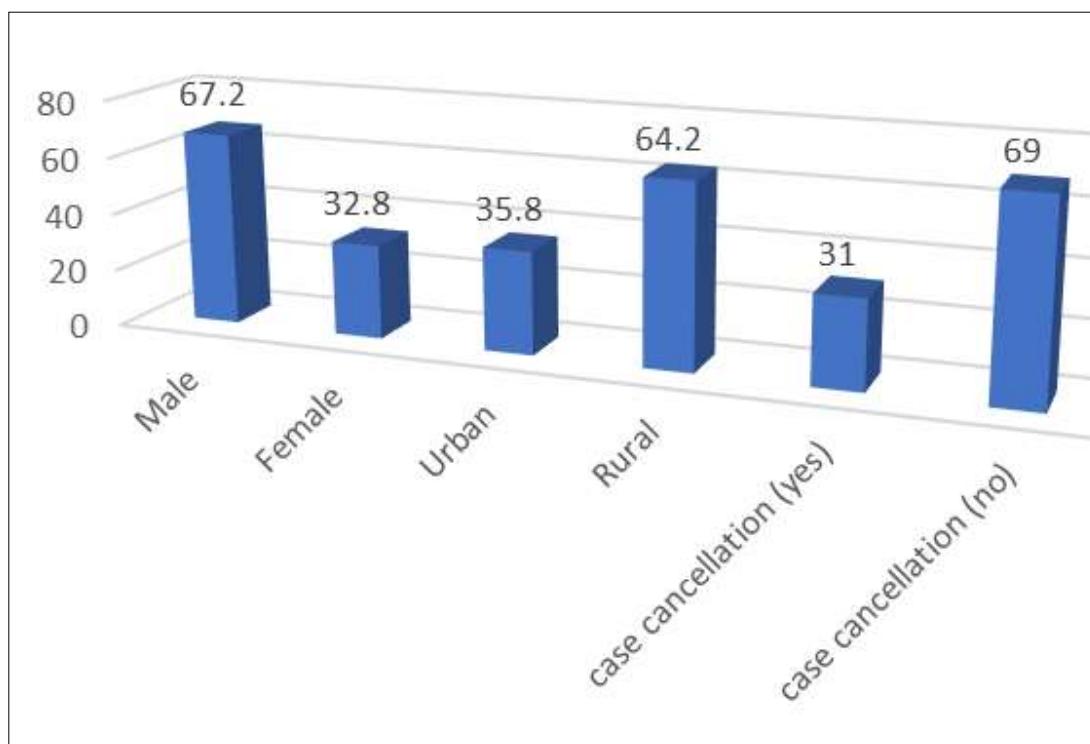
Analysis was done using frequency, percentage, mean value and standard deviation and interpreted by the tables.

**Observations and Results**

**Table 1:** Demographic variables

Variables	Characteristics	No.	%
Sex	Male	304	67.2
	Female	148	32.8
Residency	Urban	162	35.8
	Rural	290	64.2
Case Cancellation	Yes	140	31
	No	312	69

Table 1, depicted the demographic variables of the study subjects. The mean age of the study subjects were  $41 \pm 15.5$  years. The majority of the study subjects were males (67.2%), most of the patients were living in rural area (64.2%) and 69% subjects had cancellation of surgery.

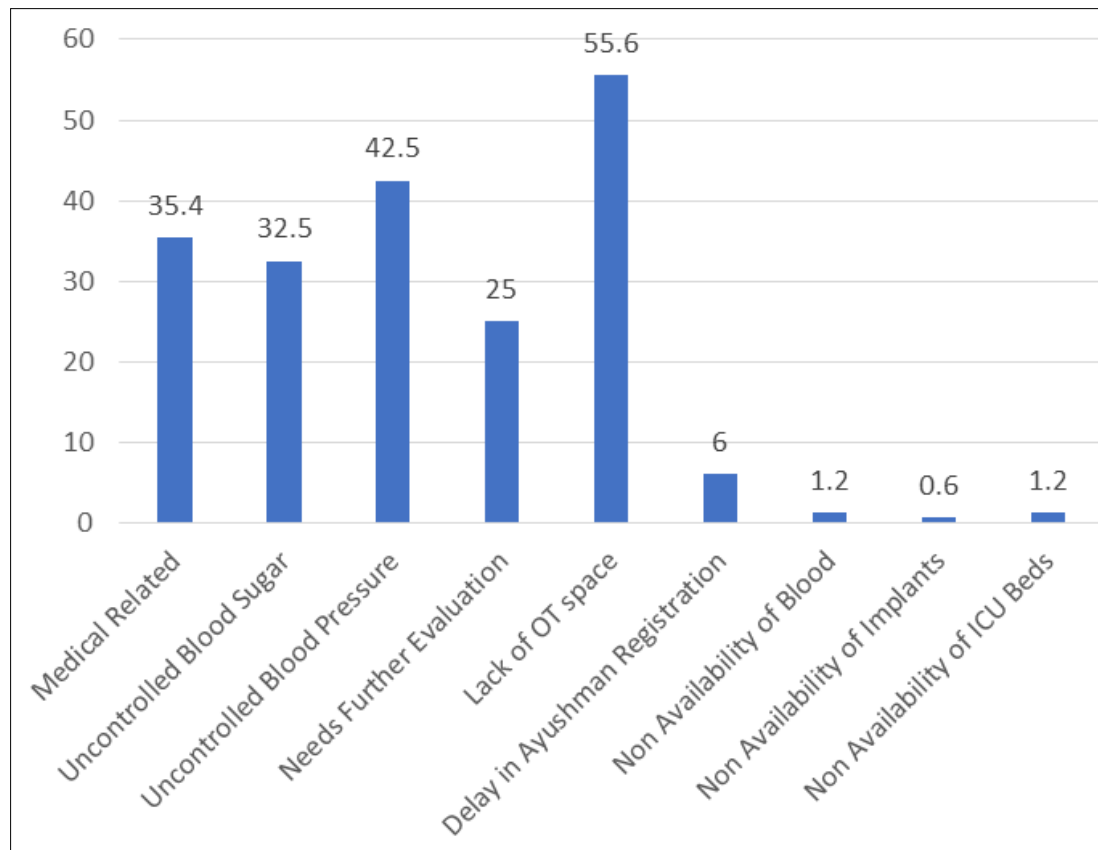


**Fig 1:** Demographic variables

**Table 2:** Reasons of cancellation

Reasons	No.	%
Medical Related	49	35.4
Uncontrolled Blood Sugar	16	32.5
Uncontrolled Blood Pressure	21	42.5
Needs Further Evaluation	12	25
Lack of OT space	78	55.6
Delay in Ayushman Registration	8	6
Non Availability of Blood	2	1.2
Non Availability of Implants	1	0.6
Non Availability of ICU Beds	2	1.2

It was found that 55.6% of the surgeries were rescheduled at least once due to lack of operation theatre space, non-availability of ICU beds for C-spine patients, changed priorities for surgeries, 35.4% due to medical reasons (Co-morbidities, need for interruption of antiplatelet treatment need for interruption of antiplatelet treatment need for ECHO, optimization of blood sugar/blood pressure etc.), 6% due to delay in Ayushman Bharat registration, 1.2% due to non -availability of blood for transfusion during surgeries, 0.8% due to delay in signing of informed consents, 0.6% due to non-availability of implants, 0.4% unknown patients.



**Fig 2:** Reasons of cancellation

## Discussion

Cancellation of elective surgeries due to any of the mentioned reasons has a significant bearing on the patient and with many added unwanted consequences. Cancellation of surgery is a burden on resources and wastage of OT time. It also increases patient waiting and subsequently decreases patient satisfaction and trust. The morale of healthcare professionals is also decreased. It was reported that the mean age of the study subjects was  $41 \pm 15.5$  years. The majority of the study subjects were males (67.2%), most of the patients were living in rural areas (64.2%) and 69% of subjects had cancellation of surgery. The findings are correlated with the study conducted by Jagiasi J *et al.*, (2015) reported that the mean age of the study subjects was 42 years and a majority of the subjects were males [6]. Another study performed by Ifesanya AO *et al.*, (2013) found that the mean age of the patient was  $36.2 \pm 19.2$  years and most of the patients were males. The male-to-female ratio was 1.3:1 [7]. In our study the elective case cancellation rate was 31% and about 55.6% of the surgeries were rescheduled at least once due to lack of operation theatre space, non-availability of ICU beds for C-spine patients, changed priorities for surgeries, 35.4% due to medical reasons (Co-morbidities, need for interruption of antiplatelet treatment need for interruption of antiplatelet treatment need for ECHO, optimization of blood sugar / blood pressure etc.), 6% due to delay in Ayushman Bharat registration, 1.2% due to non - availability of blood for transfusion during surgeries, 0.8% due to delay in signing of informed consents, 0.6% due to non-availability of implants, 0.4% unknown patients. These findings are consistent with the studies conducted by Zimmerman A, *et al.*, (2020) observed that the common reason of delay was transfer to hospital, followed by diagnosis and lack of resources [8]. In another study carried out by Jagiasi J, *et al.*, (2015) found that 48% patients had delay in surgery and the most common cause of delay was lack of

infrastructure, followed by delay in getting fitness, delay in getting implants and delay in procuring funds [6].

## Conclusion

The present study concluded that the majority of the surgical delays were due to organizational reasons which are avoidable and there is room for improvement most importantly the patient care will have a positive outcome. Thus, the protocol for the preparation of the patient for to-be-done surgeries must be strictly adhered to and ensure only ready patients are put on the definitive theatre list. Proper pre-operative patient assessment, implants/equipment and availability of blood must be made before the patient is shifted to the operating room. Documentation regarding cancellation/delay must be done and the reason explicitly written and explained to the patient/attendants.

## Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Financial Support

Not available

## References

1. Razzak JA, Luby SP. Estimating deaths and injuries due to road traffic accidents in Karachi, Pakistan, through the capture-recapture method. *Int. J Epidemiol.* 1998;27:866-870.
2. Review of the injury surveillance system. World Health Organization Regional Office for the Eastern Mediterranean website, Oman-news, Oman. Available at: <https://bit.ly/3hgZ5YT>.
3. Meara JG, Leather AJ, Hagander L, Alkire BC, Alonso

- N, Ameh EA, *et al.* Global Surgery 2030: Evidence and solutions for achieving health, welfare, and economic development. *Lancet.* 2015;386:569–624.
4. Kumar V, Khajanchi M, Raykar NP, Gerdin M, Roy N. Waiting at the hospital door: A prospective, multicentre assessment of third delay in four tertiary hospitals in India. *Lancet.* 2015;385(2):S24.
  5. Raykar NP, Yorlets RR, Liu C, Greenberg SL, Kotagal M, Goldman R, *et al.* A qualitative study exploring contextual challenges to surgical care provision in 21 LMICs. *Lancet.* 2015;385(2):S15.
  6. Jagiasi J, Prasad A, Naisbitt A, Joshi A. Delay in Surgical Management of Orthopedic Trauma Patients in an Urban Tertiary Care Hospital of India: A Cross-sectional Study. *International Journal of Science and Research.* 2015;1762-1766.
  7. Ifesanya AO, Ogundele OJ, Ifesanya JU. Orthopaedic surgical treatment delays at a tertiary hospital in sub Saharan Africa: Communication gaps and implications for clinical outcomes. *Niger Med J.* 2013 Nov;54(6):420-5.
  8. Zimmerman A, Fox S, Griffin R, Nelp T, Thomaz EBAF, Mvungi M, *et al.* An analysis of emergency care delays experienced by traumatic brain injury patients presenting to a regional referral hospital in a low-income country. *PLOS One.* 2020;15(10):e0240528.

**How to Cite This Article**

Wani JI, Singh SA, Ahmed MA, Dar MW, Ayaz S and Hussain F. Observational study of delay in surgical management of trauma patients at a tertiary care hospital: A retrospective study. *International Journal of Orthopaedics Sciences.* 2023;9(3):252-255.

**Creative Commons (CC) License**

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.