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## Impact of the COVID-19 pandemic on orthopaedic trauma workload in trauma centre, B.H.U., Varanasi, U.P.: Post COVID 19

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### Abstract

**Introduction:** This comparative study was aimed at analysing the impact of COVID 19 pandemic on Orthopaedic workload. Retrospective study was conducted in Dept of orthopaedics, Trauma Centre, BHU, Varanasi, U.P.

**Method:** Retrospective comparative study of acute Orthopaedic Trauma referrals, operations, Hospital stay of patients for the 1<sup>st</sup> 3 months of post COVID period (20 march – 20june). We compared the data with same period in 2019. Data collected was analysed using simple statistical methods of percentage.

**Result:** Post COVID 19 pandemic of 1<sup>st</sup> 3 months comparing with previous year same period there was 80.36 decreases in Orthopaedic surgical procedures done out of which 100% decrease in elective OT , 76.5% decrease in Emergency OT an 74% decrease in Minor OT and there was average 5 days increased hospital stay in admitted patients.

**Conclusion:** The impact of COVID 19 pandemic led to a decline in number of acute Trauma referrals, and operations since implementing social distancing and lockdown measures and average 5 days increased in hospital stay in admitted patient due to delay in Covid 19 RT PCR report and availability of operation theatre.

**Keywords:** Covid19, impact on patients, impact on tertiary trauma centre

### 1. Introduction

Novel corona virus (Covid-19) was first reported in December 2019 in Wuhan city, China. By mid-March 2020 the outbreak affected over 159 countries over 185000 cases and over 7500 deaths, hence declared a pandemic and a global health emergency by WHO. On January 30 India reported its first case, 3<sup>rd</sup> year Medical Student from Wuhan University who returned India during semester holidays. In mid-March 162 cases and 3 deaths of Covid patients reported in India affecting 15 States. Such a pandemic is an unprecedented event, so govt of India enacted firm social distancing and lockdown measures in an attempt to mitigate further viral transmission in order to reduce morbidity and Mortality on 25 March 2020. This led to suspension of all public gatherings and nonessential businesses (including school, colleges, universities and markets), all kinds of public transport, all members of public were required to stay at home except for limited purposes.

We evaluated the impact of COVID 19 pandemic at Trauma Centre BHU Varanasi UP by evaluating the trends of orthopaedic cases load and operative procedures done before 2019 and during 2020 COVID 19 lockdown 1<sup>st</sup> 3 months.

### 2. Method

This was a retrospective study conducted at the orthopaedics dept Trauma Centre BHU Varanasi UP India. Total number of Orthopaedic procedures done in Emergency OT/ Elective OT/ Minor OT; if admitted their hospital stay duration data during 20 march – 20 June 2019 and 20 march – 20 June 2020 (3 months of pre and post COVID 19) were compared in this study. Personal data were extracted from cases records, minor OT register, Emergency OT register, Elective OT register.

Data collected was analysed using simple statistical methods of percentage.

### 3. Results

During 3 months of study period (20 March -20 June 2019) Total no of surgical procedures (Emergency OT+ Elective OT +Minor OT) done was 2506. Out of these maximum 1319 (52.63%) done in minor OT then 719 (28.69%) done in

Emergency OT, then 468 (18.67%) done in Elective OT. Average hospital stay for operated patient was 5 days. During 3 months of study period post COVID (20 March-20 June 2020) Total no of surgical procedures done was 492 out of these maximum 309 (62.80%) done in minor OT then 183 (37.19%) done in Emergency OT. Elective OT was closed during this during this period due to pandemic lockdown. Average hospital stay for operated patient 10 days.

20 <sup>th</sup> March 2019 – 20 <sup>th</sup> June 2019			20 <sup>th</sup> March 2020 – 20 <sup>th</sup> June 2020		
	N	%	n	%	% decline Post Covid
Emergency OT	719	28.69	183	37.17	74
Elective OT	468	18.67	0	0	100
Minor OT	1319	52.63	309	62.8	76.5
TOTAL	2506	100	492	100	80.3

During Covid 19 pandemic of 3 months (20 March – 20 June 2020) comparing with previous year same period. There is 80.3% decrease in surgical procedure done in orthopaedic dept, TC, BHU out of which 100% decrease in Elective OT and 74% decrease in Emergency OT. There was average 5 days increased hospital stay in admitted patients due to delay in COVID 19 RT-PCR report and availability of operation theatre.

### 4. Discussion

There was a notable difference between numbers of operative Procedures done between the time intervals 1 year apart Pre – Post COVID in Trauma centre B.H.U. Varanasi. There was substantial decrease in number of operations (without significant difference between mechanism of injury and type of surgery or technique) This reduction is likely to have been a direct consequence of social distancing measures and lockdown implemented on National scale.

In this study post COVID period of 3 months (20 March -20 June 2020). Comparing with previous year same period. There is 80.3 % decrease in surgical procedures done in Orthopaedics department, Trauma centre, BHU; out of which 100% decrease in elective OT as nonurgent and elective procedures has been cancelled or postponed following National advice but the decision to offer operative intervention is still first and foremost decision based on clinical need balancing risk and benefit to the patient. There is 76.5 % decrease in Emergency OT cases due to decreased referral to Trauma Centre in national Lockdown and not due to Volume Altered threshold of operative intervention. There was average 5 days increase in hospital stay in admitted patients In post COVID comparing to pre Covid era due to delay in COVID RT-PCR results and unavailability of operation theatre due to shortage of staff as many of them were posted in COVID duty and were in quarantine.

### 5. Conclusion

The impact of COVID 19 pandemic has led to decline in number of acute Trauma referrals, operations since implementing social distancing and lockdown measures and average 5 days increased in hospital stay in admitted patients due to delay in COVID 19 RT-PCR report and unavailability of Operation theatre.

**6 Conflict of Interest:** There is no conflict of interest.

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