



## THE EFFECTS OF COVID-19 LOCKDOWN AND ALCOHOL ON INCIDENCE OF MAXILLOFACIAL TRAUMA IN ANDAMANS

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### ABSTRACT

The coronavirus called Covid-19 had created an impact on maxillofacial trauma cases worldwide.[3,13,14,15] The various effects of lockdown measures and the impact of post-lockdown after the withdrawal of restrictions remain unknown. Hence this study aims to assess the impact of covid on maxillofacial trauma reporting and the effects of alcohol consumption in Andamans (PortBlair). The maxillofacial trauma cases that had been reported during the lockdown period from March 2020 till August 2020 (6months) and of the following post lockdown months from September 2020 till February 2020 (6months) after the total restrictions were removed and relaxations were granted in Andamans. A total report of 168 patients was recorded in 12 months period (6 months lockdown 21(12.5%) and 6 months post lockdown 147(87.5%)). Among this 58(89.2%) patients had shown involvement with alcohol post- lockdown. This study can be used for planning further future studies and ideas for various areas of development, improvement, and better improvisation

### KEYWORDS :

#### INTRODUCTION

The coronavirus called Covid-19 is the latest highly infectious zoonotic virus, causing life-threatening pneumonitis first identified in Wuhan, China in late 2019<sup>[6,7]</sup>. This was further declared as a global pandemic by the World Health Organization (WHO) in March 2020. As a preventive measure to the spread of deadly diseases many countries, governments have placed their countries under complete lockdown followed by partial lockdown as a containment strategy.

India reported the first positive case of the novel coronavirus in Kerala, which further spiked up and rapidly spread to various states and other parts of the country. As the disease progressed and begin to affect the wider population in India, to slow down the spread of the virus and thus reduce the number of new severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections, confirmed cases, and fatalities, the Government of India had ordered and imposed a complete nationwide lockdown for 21 days at midnight 24 March 2020. Andaman and Nicobar Islands with a population of ~500000 being the Union Territory of India also followed the same protocols as per the Union Government. A firm Lockdown was enforced in the UT on 24<sup>th</sup> March 2020 which continued for the next 75 days till 17<sup>th</sup> August 2020.

These measures included various restrictions on social outings, outdoor activities, gatherings, and festivals, urging the citizens to follow social distancing. It also included the shutdown of holy places, restaurants, cinemas, shopping complexes, educational institutions, and all industrial and manufacturing activities. All modes of transport services in Andaman i.e., roads, air, and water were suspended with the exceptions of those providing basic services, emergency, and critical services alone. The movement of citizens was strictly restricted, even walking without a valid reason was punishable. There was a complete ban on the selling of alcoholic beverages which was strictly prohibited. The Department of Dentistry with Emergency/Causality Department In G.B.Pant Hospital had remained open to facilitate emergency treatments including infection drainage, road traffic accidents, emergency airway management, and time-sensitive trauma.

According to Adekeye,<sup>[1,3,11]</sup> maxillofacial injuries are increasing in frequency and severity because of the heavy reliance on-road transportation and the increasing socioeconomic activities of the population. Alcohol has a strong association with maxilla-facial injuries due to motor vehicle accidents and interpersonal violence.<sup>[2,3]</sup> Hazardous consumption of alcohol is a leading modifiable determinant of facial injury.<sup>[8,10]</sup>

This unprecedented situation allowed us to evaluate the decline of maxillofacial trauma due to road restrictions and closure of

alcohol/wine shops, in G.B.Pant Hospital which usually reports a higher number of trauma cases. The study evaluated the variation analysis in the incidence of trauma, gender, age, etiology, and pattern of maxillofacial injury and effects of the influence of alcohol during the lockdown period and post lockdown period, also to evaluate possible implications in preventing future injuries.

#### METHODOLOGY

The study was performed in the Department of Dentistry in Andaman & Nicobar Islands Institute of Medical Sciences (ANIIMS) G.B.Pant Hospital in Port Blair (Andaman and Nicobar Islands).

A comparative study was performed of maxillofacial trauma cases that had been reported during the lockdown period from March 2020 till August 2020 (6months) and of the following post lockdown months from September 2020 till February 2020 (6months) after the total restrictions were removed and relaxations were granted in Andamans. All the patients who reported maxillofacial trauma as the outpatient in the Department of Dentistry or were referred from various other Departments/Emergency/Causality from the same institution (ANIIMS)/G.B.Pant hospital were included in the study. The ethics committee provided ethical approval.

Patients who did not require any surgical intervention and with insufficient data analysis were excluded from the study. A complete history of the incidence of trauma was recorded. Clinical and radiological evaluation was done with the use of an orthopantomogram and computed tomographic scan of the face and fractures were noted. All the data were tabulated in a proforma specially designed for the study. Comparative analysis was done for parameters such as several trauma cases, gender, age, and patients under the influence of alcohol. Type of injury was categorized as soft-tissue injury, Dento-alveolar#, mandibular#, mid-face#, pan-facial#, and other comminuted#.

Maxillofacial trauma cases were further subcategorized as road traffic accidents, physical assault, domestic accidents, falls, occupational injury, and sports injury. Statistical analysis was done with the help of Statistical Product and Service Solutions (SPSS).

#### RESULTS

A total report of 168 patients was recorded in 12 months period (6 months lockdown 21(12.5%) and 6 months post lockdown 147(87.5%)). The age group with more reports of trauma was found to be between 21 to 40 years of age during post-lockdown and below 20years during lockdown with a mean age of 32.33 (table 1). On gender analysis, the male predominance in both groups was more than that of females. (Table 2). About 58(89.2%) patients had shown

involvement with alcohol post- lockdown with a vast decrease in number to 7(10.8%) during the lockdown. (Table 3)

Analysis in the mechanism of injury revealed that in 147(87.5%), 49(87.5%) reported with RTA (road traffic accidents) during post lockdown followed by occupational injury 35(97.2%) and fall 27(79.4%) and during lockdown among 21(12.5%) RTA were 7(12.5%), fall 7(20.6%) followed by sports injury 3(16.7%) and others. (Table 4)

Analysis of the type of injury showed the most common type of injury among both the groups were soft tissue injury 86(86.0%) post lockdown and 14(14.0%) lockdown period. Other common injuries were mandible fracture 85(87.6%) 12(12.4%) and midface fracture 76(86.4%) 12(13.6%). There was a decrease in all injuries during the lockdown group, specifically in road traffic accidents.(Table 5)

**Table 1. Distribution Of Age Group**

Age	Group		Total
	Post lockdown	Lockdown	
≤20	27(79.4%)	7(20.6%)	34
21-30	35(85.4%)	6(14.6%)	41
31-40	43(95.6%)	2(4.4%)	45
41-50	27(87.1%)	4(12.9%)	31
≥51	15(88.2%)	2(11.8%)	17
Total	147(87.5%)	21(12.5%)	168

**Table 2. Distribution Of Gender**

Gender	Group		Total
	Post lockdown	Lockdown	
Female	33(89.2%)	4(10.8%)	37
Male	114(87.0%)	17(13.0%)	131
Total	147(87.5%)	21(12.5%)	168

**Table 3. Distribution Of Influence Of Alcohol**

Influence Of Alcohol	Group		Total
	Post lockdown	Lockdown	
Yes	58(89.2%)	7(10.8%)	65
No	89(86.4%)	14(13.6%)	103
Total	147(87.5%)	21(12.5%)	168

**Table 4. Distribution Of Mechanism Of Injury**

Cause of trauma	Group		Total
	Post lockdown	Lockdown	
Assault	6(75.0%)	2(25.0%)	8
Domestic accident	15(93.8%)	1(6.2%)	16
Fall	27(79.4%)	7(20.6%)	34
Occupational injury	35(97.2%)	1(2.8%)	36
RTA	49(87.5%)	7(12.5%)	56
Sport injury	15(83.3%)	3(16.7%)	18
Total	147(87.5%)	21(12.5%)	168

**Table 5. Distribution Of Type Of Injury**

Other	Group		Total
	Post lockdown	Lockdown	
Soft tissue injury	86(86.0%)	14(14.0%)	100
Dento-alveolar #	47(87.0%)	7(13.0%)	54
Mandible #	85(87.6%)	12(12.4%)	97
Midface #	76(86.4%)	12(13.6%)	88
Pan-facial#	24(85.7%)	4(14.3%)	28
Others	27(79.4%)	7(20.6%)	34
Total	147(87.5%)	21(12.5%)	168

## DISCUSSION

On 24 March 2020, the Indian government commenced a national lockdown in an attempt to "flatten the curve" of the Covid-19 spread.<sup>[6]</sup> While the intention was to irradiate the spread of this deadly disease, it appeared to have a greater impact on several cases of maxillofacial trauma. As per the study conducted there was a significant decrease in the incidence of maxillofacial trauma cases during lockdown compared to post lockdown. The public adherence to lockdown guidelines is likely the primary contributing factor to the significant reduction in the number of major traumatic presentations during the lockdown, which was by the study conducted by Rajput *et al.*<sup>[9][5][12]</sup>. There was a significant reduction the road traffic accidents especially in the younger age group from 20-40 years. This result was similar to the study where RTC nearly halved in number. Data from the British department of transport show a 73% drop in the number of

motorists at the end of March 2020.<sup>[13]</sup> Trauma in children and teenagers below 20 years was more evident during lockdown which was mostly associated with falls and sports injury. The effect of work restrictions during lockdown had shown a gradual decrease in the number of occupational injuries to 1(2.8%) among 21(12.5%) patients during the lockdown. Moreover, the widespread anxiety among the general population about contracting Covid-19 has likely reduced their traumatic behaviour leading to a 35.1% and 33.7% reduction in overall maxillofacial trauma cases when compared with the year 2019 and pre-lockdown times.<sup>[6][4]</sup> Few of the reported as well as unreported cases such as assaults, domestic violence, and interpersonal violence during the lockdown were the major drawbacks of lockdown. This effect of social isolation has a greater effect on one's physical and mental health. The immediate effect of the relaxation of the lockdown showed a drastic increase in the number of trauma cases. The effects of the ban of alcohol through wine shops and bars also showed a relation between the reported number of accidents especially road traffic accidents in Port Blair, mainly in younger and middle age group. There was a sudden increase in the number of cases once the restrictions were removed and normalcy was attained. Hence the correlation of multiple aspects of the study could not be attained as a limitation of this study. The various public health programs, awareness, and road traffic management for control over alcohol consumption driving cases management will be beneficial for the risk of loss of life of many during such accidents and assaults. This study can be used for planning further future studies and ideas for various areas of development, improvement, and better improvisation.

## DECLARATIONS

On behalf of all Co-Authors, I shall bear full responsibility for the submission. I confirm that all authors listed on the title page have contributed significantly to the work, have read the manuscript, attest to the validity and legitimacy of the data and its interpretation, and agree to its submission.

Ethics Approval and consent to participate- received , patient consent not applicable

Consent for publication – not applicable

Competing interest – none

Author contribution - declared above

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Availability of data and material – with consent from departmental OPD logbook And Hospital records.

## REFERENCES

- Adekeye, E. O. "The pattern of fractures of the facial skeleton in Kaduna, Nigeria: a survey of 1,447 cases." *Oral Surgery, Oral Medicine, Oral Pathology* 49, no. 6 (1980): 491-495.
- Boutray, M. de, J.-D. Kün-Darbois, N. Sigaux, J.-C. Lutz, A. Veysiere, A. Sesque, C. Savoldelli, et al. "Impact of the COVID-19 Lockdown on the Epidemiology of Maxillofacial Trauma Activity: A French Multicentre Comparative Study." *International Journal of Oral and Maxillofacial Surgery* 50, no. 6 (June 2021): 750-55. <https://doi.org/10.1016/j.ijom.2020.10.005>.
- Canzi, Gabriele, Elena De Ponti, Federica Corradi, Roberto Bini, Giorgio Novelli, Alberto Bozzetti, and Davide Sozzi. "Epidemiology of Maxillo-Facial Trauma During COVID-19 Lockdown: Reports From the Hub Trauma Center in Milan." *Craniofacial Trauma & Reconstruction* 14, no. 4 (December 2021): 277-83. <https://doi.org/10.1177/1943387520983119>.
- Fahy, Stephen, Joss Moore, Michael Kelly, Olivia Flannery, and Paddy Kenny. "Analysing the variation in volume and nature of trauma presentations during COVID-19 lockdown in Ireland." *Bone & Joint Open* 1, no. 6 (2020): 261-266.
- Gautam, Sneha. "The Influence of COVID-19 on Air Quality in India: A Boon or Inutile." *Bulletin of Environmental Contamination and Toxicology* 104, no. 6 (June 2020): 724-26. <https://doi.org/10.1007/s00128-020-02877-y>.
- Goulart, Douglas Rangel, Leticia Durante, Márcio de Moraes, and Luciana Asprino. "Characteristics of Maxillofacial Trauma Among Alcohol and Drug Users." *Journal of Craniofacial Surgery* 26, no. 8 (November 2015): e783-86. <https://doi.org/10.1097/SCS.0000000000002055>.
- Ismail, P TIKRAM Bin, Ajith Samson, Cs Soumithran, Kr David Tharakan, O Fasalulla, and Namitha Prem. "Impact of Covid-19 Lockdown Measures on the Burden of Maxillofacial Trauma Cases: A Record-Based Comparative Study." *International Journal of Oral Care and Research* 9, no. 1 (2021): 18. <https://doi.org/10.4103/IJNO.IJNO.1.21>.
- Ismail, PT IKRAM Bin, Ajith Samson, C. S. Soumithran, KR David Tharakan, O. Fasalulla, and Namitha S. Prem. "Impact of Covid-19 lockdown measures on the burden of maxillofacial trauma cases: A record-based comparative study." *International Journal of Oral Care and Research* 9, no. 1 (2021): 18.
- Jayasuriya, Nadeena Sri Swarnagupta, Irosha Rukmal Perera, and Sakuntha Ratnapreya. "Re: Maxillofacial Surgery and COVID-19, the Pandemic!" *Journal of Maxillofacial and Oral Surgery* 19, no. 3 (September 2020): 475-76. <https://doi.org/10.1007/s12663-020-01424-w>.
- Lee, Kai H., Alexander M. Bobinskas, and Jia Dong Sun. "Addressing Alcohol-Related Harms Within Maxillofacial Trauma Practice." *Journal of Oral and Maxillofacial*

- Surgery* 73, no. 2 (February 2015): 314.e1-314.e6. <https://doi.org/10.1016/j.joms.2014.09.026>.
11. Prasad, C, M B Aswath Narayanan, V Parimala, and M Vijjaykanth. "Prevalence and Pattern of Maxillofacial Trauma in North Chennai: A Retrospective Study." *Journal of Indian Association of Public Health Dentistry* 16, no. 4 (2018): 5.
  12. Puglia, Fa, and Ga Chiu. "Comparison of Oral and Maxillofacial Trauma during the First and Third Lockdown of the COVID-19 Pandemic in the United Kingdom." *British Journal of Oral and Maxillofacial Surgery*, August 2021, S0266435621003107. <https://doi.org/10.1016/j.bjoms.2021.08.005>.
  13. Rajput, Kunal, Ajay Sud, Michael Rees, and Olga Rutka. "Epidemiology of trauma presentations to a major trauma centre in the North West of England during the COVID-19 level 4 lockdown." *European journal of trauma and emergency surgery* 47, no. 3 (2021): 631-636.
  14. Vishal, Om Prakash, Rohit, V. K. Prajapati, Ajoy Kumar Shahi, and Tanya Khaitan. "Incidence of Maxillofacial Trauma Amid COVID-19: A Comparative Study." *Journal of Maxillofacial and Oral Surgery*, November 21, 2020. <https://doi.org/10.1007/s12663-020-01484-y>.
  15. Yeung, E., D.S. Brandsma, F.W. Karst, C. Smith, and K.F.M. Fan. "The Influence of 2020 Coronavirus Lockdown on Presentation of Oral and Maxillofacial Trauma to a Central London Hospital." *British Journal of Oral and Maxillofacial Surgery* 59, no. 1 (January 2021): 102-5. <https://doi.org/10.1016/j.bjoms.2020.08.065>