



ORIGINAL RESEARCH PAPER

Forensic Medicine

IMPACT OF COVID-19 PANDEMIC AT AUTOPSY CASES IN A TERTIARY HEALTH CARE CENTER AT TOURIST PLACE: A RETROSPECTIVE STUDY

KEY WORDS: Covid 19, suicide, autopsy, homicide, road traffic accidents(RTA) etc

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ABSTRACT

Covid - 19 pandemic in 2019- 2020 had impacted several lives. If many people died naturally as a result of disease on one end, others were victims of the burden it imposed and died an unnatural death on the other. It burdened every person mentally and economically. Its consequences led to a stream of unstoppable tragedies all across. At AIIMS Rishikesh, a retrospective descriptive research was done to see how it affected postmortem at this Himalayan tourist destination that relies heavily on tourism for its economic survival. A significant reduction in mortality due to accidents was noted. Suicide cases, on the other hand, increased with male predominance due to sudden exposure to psychological and financial difficulties.

INTRODUCTION

In December 2019, pneumonia of unknown cause was detected in Wuhan, China. It was first reported to WHO on 31st December 2019, and on 30th January 2020, the outbreak was declared a Public Health Emergency of International concern. Later, it was found that the causative agent is a new coronavirus, that causes Covid-19, and declared the same by the WHO on 11th feb 2020[1].

Covid-19 is a respiratory disease, caused by a virus named SARS-CoV-2 (Severe Acute Respiratory Syndrome related Corona Virus 2), previously known as 2019 novel coronavirus. [2]. It was spreading rapidly across the globe because of the infected migrants. With due course of time, new strategies kept on coming in order to combat this new corona disease in clinical as well as in social set up. It became a global challenge for epidemiologists, doctors, and health care workers to prevent further transmission and to find out the cure of the disease. In view of very little knowledge about the survival and spread of this virus from a dead body, it became a challenge for forensic pathologists to conduct autopsy worldwide. Because of its rapid transmission from person to person, it became a threat globally and health care workers became a major concern. As there was no vaccine or drug in the initial phase, it necessitates the government to take the bold step in order to prevent, or minimize further transmission of the virus in the community and among health care workers, so nationwide lockdown was begun from 24th March 2020 in various phases of shorter duration. During this people were not allowed to travel from one city to another, and roam around except for the subsidy period. Every state border was sealed, migration from one state to another state was not allowed. Lockdown ended on 30th June 2020. Lockdown during covid-19 also showed an effect on autopsy cases and the manner it's being conducted.

MATERIAL AND METHODS

Study procedure; A retrospective descriptive study was carried out in the Department of Forensic Medicine & Toxicology at AIIMS Rishikesh from Jan 2020 to December 2020. The strict lockdown was imposed from 30th June 2020 – 24th March 2020. Data was collected from the postmortem record register and Autopsy reports. For medico-legal autopsy, Department of Forensic Medicine and Toxicology, AIIMS Rishikesh has jurisdiction over seven police stations. It covers cases from Rishikesh, Muni Ki Reti, Laxman jhula, Raiwala, Narendra Nagar, and Ranipokhri police stations and cases from GRP Dehradun.

Study Population:

A total of 352 cases was included in the study on which autopsy were performed. These cases could be categorized as accidental, suicidal, homicidal, and natural death. Before

conducting the autopsy, a psychological autopsy was also done. Cases from Jan 2020 to Dec 2020 were included.

Data Analysis:

Data were analysed using SPSS software. Categorical variables such as age, gender, and manner of death were represented in the form of a pie chart and bar diagram.

RESULT:

Demographic Characteristics

The total study population includes 352 deceased with 287 males (81.5%) and 65 females (18.5%) with a mean age of 38.40 years [ranges:00 years to 95 years].

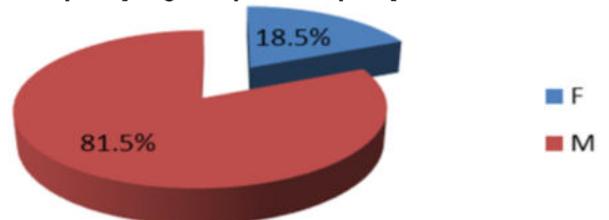


Fig 1. Showing Distribution Of Gender In The Study Population F= female, M= Male(n=352).

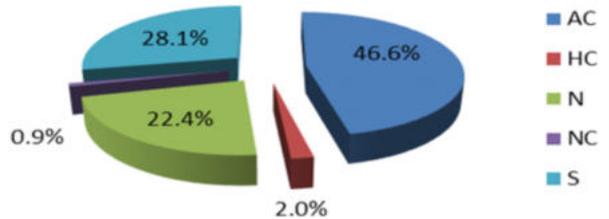


Fig 2. Showing Distribution Cases In Relation With Of Manner Of Death In The Study Population AC= Accident, HC= homicide, N= natural death, NC= Non conclusive, S= Suicide (n=352).

Manner of Death

During the study period, 352 cases were autopsied, with 164 (46.6%) deaths due to accidents, 99 (28.1%) deaths due to suicides, 79 (22.4%) deaths owing to natural disease, 7 (2.0%) cases of suspected homicide, and three cases where the cause of death could not be determined.

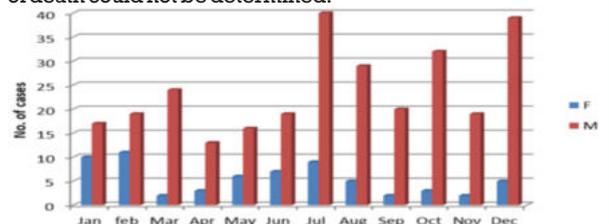


Fig 3. showing the Gender distribution of the study

population(n=352).

Out of 352 autopsies, only 68 (19.3%) were conducted during the lockdown period. The rest of the autopsies were done in the pre and post-lockdown period. No of cases in the Prelockdown and Post lockdown period were 97 (27.5%) and 204 (57.95%) respectively.

There was male mortality preponderance in each phase of the pandemic [Fig 3]. Maximum medico-legal cases at our center were reported in the month of July (49: 9F, 40 M) followed by December (44: 5F, 39 M) due to subsidy in transportation. Less number of cases were autopsied during the strict lockdown phase [March – 2 cases (M), April- 16 cases (3F, 13M), May 22 cases (6F, 16M), and in June (26, 7 F, 19 F)]. [Fig 3]

Lockdown period (24 March 2020- 30 June 2020)

30 cases of suicide (44.1%; 5 F, 25M) were found among the 68 cases, followed by 20 cases of natural death (29%), 16 cases of accidents (53.33%), 1 case of suspected homicide (0.1%), and 1(0.1%) case where the cause of death could not be determined.

Post lockdown period (1 July 2020- 31 December 2020)

Among the 205 cases, there were 111 cases (54.1%) of accidents, 49 cases of suicide (23.9%; 10 F, 39 M), 42 cases (20.4%) of natural death, 1 case (0.004%) of suspected homicide, and 1 case (0.004%) where the cause of death could not be determined.

Pre lockdown period (1 Jan 2020- 23 March 2020)

There were 40 cases (41%) of accidents, 26 cases (26%, 7 F, 19 M) of suicide, 25 cases (25.7%) of natural death, 5 cases (51%) of suspected homicide, and 1 case (0.01%) where the cause of death could not be determined among the 97 cases.

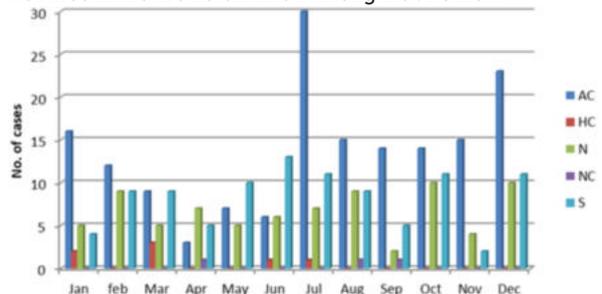


Fig 4. Showing Distribution Of Manner Of Death In The Study Population.

The maximum number of death in July (30) and in December (23) due to accidents was followed by maximum death due to suicide in June (13) and July (11), October (11), and December (11). Death due to accidents were minimum in April (3), May (7), and June (6) in the lockdown period. Most of the natural death occurred due to Coronary artery disease followed by Pulmonary Tuberculosis and chronic lung diseases.

DISCUSSION

Uttarakhand is a hilly region and a tourist place. So accidental deaths (Road Traffic Accident, landslide, drowning) are very common. Most of the cases were accidental (RTA) deaths. It is followed by natural death and then suicidal (Drowning, poisoning, hanging) cases. It was observed that in both pre lockdown and post lockdown phase accidental cases were nearly double of suicide and natural death cases but in the lockdown period, death due to accidents occurred at a lesser extent to suicidal cases [3]. This phase was dominated by suicidal death followed by natural death as transportation was restricted. Even its impact was observed in post-lockdown period in all manner of death, especially in the case of suicide. During the post-lockdown phase resume of tourism results in an increase in accidental cases. Male preponderance was observed in the suicide group in each phase due to loss of

jobs and inability to cope with the economic crisis situation. During the psychological autopsy, it was revealed that people from different states came to Rishikesh and committed suicide due to lack of jobs, loss in business resulting in debts and quarrels at home [4]. Failure to cope with the economic burden led to mental issues and ultimately death [5].

CONCLUSION:

In this study, we conclude that the Covid-19 pandemic brought psychological and economical issues in people's life. It became very difficult to cope with such a situation which led to a tragedy. Reduction in autopsy cases was due to a decrease in accidental cases but on the contrary suicidal(hanging/ Poisoning/drowning) cases got increased in lockdown period because of incompetency towards social anxiety, loss of jobs, lack of interaction, economical drainage, and insecurity towards health and money. The male preponderance in suicides reflects their inability to cope with adversity.

Conflict Of Interest:

The authors declared that they have no conflict of interest.

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