

Pattern of unnatural deaths during COVID-19 lockdown in comparison with deaths reported during 2019 in Sahiwal city

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Author's Contribution

¹ Conception of study

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Abstract

Objective: To observe the effects of COVID-19 lockdown on unnatural deaths in Sahiwal in 2020 by comparing it with unnatural deaths reported in 2019.

Material and Methods: A comparative cross-sectional study was performed in the mortuary of DHQ Teaching Hospital Sahiwal affiliated with the Department of Forensic Medicine & Toxicology Sahiwal Medical College, Sahiwal. This was a hospital record-based research. A consecutive sampling technique was used and data was collected during the COVID-19 lockdown period from 24th March 2020 to 9th May 2020 and compared with the same period in 2019. This study included 62 cases of unnatural deaths, out of which 23 Cases in 2019 and 39 cases in 2020 were recorded. The data was gathered regarding age, sex, marital status, residential area, manner, and cause of death by using a self-structured questionnaire after getting the consent of concerned administrative officials.

Results: In total 62 cases, in 2019 there were 15 males and 8 females with a mean age of 37.30±19.55 years, and in 2020, there were 27 males and 12 females with a mean age of 32.85±15.16 years. The age group in which most (46.8%) deaths occurred was 30-59 years. In 2019 majority of victims died due to homicide 15(65.2%) while during the lockdown period only 12(30.8%) victims lost their lives due to homicides. Firearm injuries were the cause of death among 11 cases (47.8%) in 2019 and 8 cases (20.5%) in 2020. In 2019, only 1 death (4.3%) was caused by an accident while a majority (36%) of deaths during the lockdown period amidst the COVID pandemic were attributed to roadside accidents. We could not detect a significant difference in the two periods examined with respect to sociodemographic factors, but a manner of death was significantly affected.

Conclusion: The study shows that there is an increased incidence of suicides and accidental deaths which can be attributed to stress and anxiety, which expanded greatly due to lockdown.

Keywords: Depression, death, stress, COVID-19.

Introduction

The whole world is in deep crisis nowadays with the current pandemic which has been caused by the corona virus. Numerous extraordinary measures and tactics have been implemented to prevent the spread of COVID-19. These measures have pushed most of the global population to lockdown imposition though of varying duration from slight lockdown to complete lockdown, the intensity being decided by governments in different areas of the world according to variable and fluctuating needs of the area based on economy, health status, immunity status and numerous other factors relating to the population-specific to that particular area. The literal meaning of 'Lockdown' is 'Restrictive Mass Quarantine'.¹ In general, lockdown is disliked in almost all parts of the world. On one hand, for daily wages workers or laborers, it hinders the fulfillment of their very basic needs while on the other hand, the severe psychological disturbance has been observed in higher socioeconomic classes as well due to distanced relationships with loved ones, the loss of freedom, social isolation, uncertainty over the status of the disease, absence of any cure and unpredictable prognosis of this deadly disease.

Lockdown imposition and quarantine have resulted in diverse social illnesses and psychological disorders across the globe. Extreme risk-taking behaviors are being observed among which the most dangerous is the increasing trend of suicidal tendencies.² Suicidal tendencies are increased in those populations in which there is more social isolation, more loneliness, lack of relationship support, decreased emotional harmony, and volatility.³ Economically, these lockdown measures have compelled the international as well as national production flow to go drastically down which has resulted in a severe scarcity of raw material. On the other hand, the international and national needs have also decreased resulting in massive redundancy. Thus lockdown has negatively affected the economic growth and stability of finances of the whole world specifically the developing countries like Pakistan.⁴ Numerous funds have been allotted by the State Bank of Pakistan for the relief of COVID-19 affected families. Similar measures have also been implemented by the Pakistani government for grasping the current situation⁵, but in Pakistan, the impoverished health infrastructure and decreased communal security have caused the community to remain vulnerable to economic distress and health insecurities.⁶ Present research has been designed to study the effects of COVID-19 lockdown on unnatural

deaths in Sahiwal that may have been caused by the above-mentioned drawbacks of lockdown.

Materials and Methods

A comparative cross-sectional study was performed. Sample comprise d of all unnatural deaths reported from March 24th till 9th May 2019 (23 cases) and from March 24th till May 9th, 2020 (39 cases), in the mortuary of DHQ Teaching Hospital Sahiwal affiliated with the Department of Forensic Medicine & Toxicology Sahiwal Medical College, Sahiwal with total 62 cases. Unnatural deaths (deaths due to intentional or unintentional external injury) which were included in this study were divided into four types i.e. homicidal deaths (murder or intentionally causing someone's death), suicidal deaths (intentionally causing one's death), accidents (deaths caused by road traffic accidents, choking, drowning, machinery, etc.) and deaths due to unknown cause. A consecutive sampling technique was utilized. The sample was selected from both genders starting from age 15 years till age 85 years. Those autopsied cases in which results were awaited for pathological or other testing were excluded from the study. The source of data was autopsy reports, policy papers, and history from relatives and friends of the deceased. A proforma was designed to record the age, sex, marital status, residential area, manner, and cause of death as study variables. Statistical analysis was performed by using SPSS version 25.

Results

Of the total 62 cases enrolled in this study, 23 and 39 cases were reported during 2019 and 2020 respectively. The gender distribution of the cases has been shown in Figure 1.

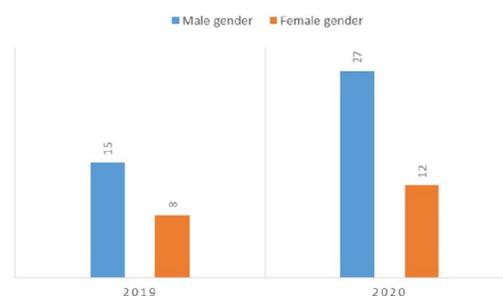


Figure 1: Bar chart showing gender distribution of cases in 2019 and 2020

In 2019 there were 15 (65.2%) males and 8(34.8%) females and in 2020, there were 27(69.2%) males and 12(30.8%) females, with mean age recorded as 37.30±19.55 years in 2019 and 32.85±15.16 years in 2020. There is no significant difference between gender and age in comparison to both time periods. The interpersonal violence cases resulting in trauma presentations in Sahiwal increased significantly during the lockdown period. The increase in accidents was significant statistically, but the increase in the cases of homicides was less significant. Overall the p-value of 0.014 (manner of death) shows a strong association between deaths and lockdown. Socio-demographic factors had shown no effect on the deaths in our study. The volume of homicidal cases decreased significantly during the lockdown period.

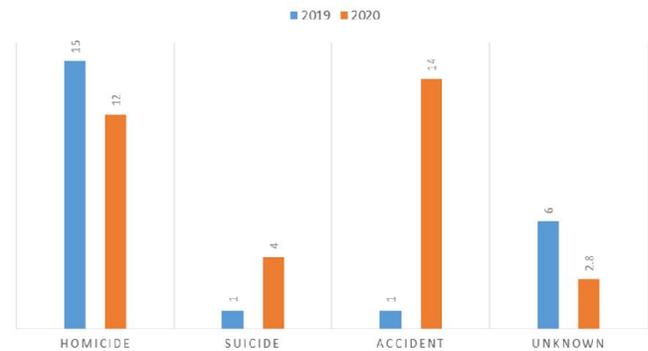


Figure 2: Distribution of manner of death during both years

Table 1: Comparison of characteristics among autopsied cases reported during 2019 and 2020 in Sahiwal city

Characteristics of cases		2019	2020	p-value*
Autopsies performed (n)		n=23	n=39	
Age (mean)		37.30±19.55	32.85±15.16	0.071
Gender (%)	Male	15(65.2%)	27(69.2%)	
	Female	8(34.8%)	12(30.8%)	0.744
Age Groups (%)	15-29 Years	8(34.8%)	18(46.2%)	
	30-59 Years	12(52.2%)	18(46.2%)	0.612
	≥60 Years	3(13.0%)	3(7.6%)	
Residential area (%)	Rural	17(73.9%)	24(61.5%)	
	Urban	14(17.4%)	5(12.8%)	0.261
	Unknown	2(8.7%)	10(25.6%)	
Marital status (%)	Married	6(26.1%)	7(17.9%)	
	Unmarried	9(39.1%)	21(53.8%)	0.711
	Unknown	8(34.8%)	11(28.2%)	
Manner of Death n (%)	Homicide	15(65.2%)	12(30.8%)	
	Suicide	1(4.3%)	4(10.3%)	
	Accidental*	1(4.3%)	14(35.9%)	0.014*
	Unknown	6(26.1%)	9(23.1%)	
Cause of Death n (%)	Asphyxia	3(13.0%)	3(7.7%)	
	Blunt	1(4.3%)	2(5.1%)	
	FA	11(47.8%)	8(20.5%)	
	RTA	1(4.3%)	13(33.3%)	0.05
	Undetermined	6(26.1%)	8(20.5%)	
	Others	1(4.3%)	5(12.6%)	

*P-value < 0.05 was taken as significant

* means statistically significant difference

The majority of victims belonged to the rural vicinity 17(73.9%) in 2019 and 24(61.5%) in the year 2020 followed by urban areas and unknown places of living in 2019 and 2020 followed by unknown areas.

In 2019 manner of death in the majority of cases was homicidal 15(65.2%) in nature followed by unknown causes 6(26.1%), suicidal case 1(4.3%), and accidental

1(4.3%) cases. The majority of deaths in the year 2020 were as a result of accidents 14(35.9%) followed by homicide (30.8%), unknown causes 9(23.1%), and suicidal cases 4(10.3%).

In 2019 majority of victims died due to firearm injuries 11(47.8%) followed by undetermined 6(26.1%), asphyxia 3(13.0%), blunt injuries 1(4.3%), and roadside

accidents 1(4.3%) each. On the other hand in 2020 majority of victims died in roadside accidents 13(33.3%) followed by firearm 8(20.5%), undetermined 8(20.5%) others 4(10.3%), asphyxia 3(7.7%), and blunt injury 2(5.1%).

Discussion

Khurshid et al. conducted a similar study in Karachi. 246 autopsies were studied in 2019 and 2020 in which the cause of death was road traffic accidents. The results showed that there was a significant decrease in road traffic accidents during the lockdown period that may be caused by reduced traffic burden.⁷ Our study did not reveal any statistically significant difference regarding age, gender, and area of belonging related to unnatural deaths in Sahiwal, but a quite evident difference was observed regarding the manner of death. The proportion of accidental deaths was increased from 4% to 36% which was contrary to a study conducted in Greece where such types of death cases were greatly reduced during a lockdown. In the same study, homicides and suicides remained unaffected during lockdown which is also opposite to our results.⁸ Opposite results were also observed in the study by Calderon et al. in Peru⁹ in which decline was observed in all cases of deaths regardless of its manner. The minimum decline was observed in suicidal cases and the maximum decline was observed in road traffic accidents.⁹ In a study by Adam et al in South Africa, a 25% decline was seen in trauma cases.¹⁰ Babu et al performed a retrospective study in the Department of Forensic Medicine in the Medical College of Kottayam by checking autopsy reports of 424 cases during 2019 and 2020. In 2019 maximum of 44.6% of deaths were due to accidents, whereas in 2020, the maximum (46.3%) deaths resulted due to natural diseases.¹¹

Homicidal deaths presented a significant drop in our study from 65.2% to 30.8% after implementation of lockdown which is in line with another international study conducted in Peru.¹⁰ Pandey et al. performed a study in India¹² which also described a decrease in homicidal deaths. A study was performed by Venter et al. in Africa¹³ that also showed decreased incidence of homicides during the lockdown period.

Suicidal deaths increased from 4% to 10% in our study. Gunnell et al. conducted a study in London which showed similar results from 2.5% to 7.5%.¹⁴ The increasing trend of suicidal cases in any community may be said to be contributed by economic instability, social unrest, and other daily life disturbances (14, 15).

In our study, an increase was seen in suicide cases as well from 1(4.3%) in 2019 to 4(10.3%) in 2020. Lockdown violations seem everywhere to have recklessly abandoned all to fate and chance.¹¹ Myths largely circulated, reinforcing an explicit violation of lockdown.^{16,17}

Conclusion

This study points out significant differences in the manner of death during COVID-19 lockdown and before lockdown. Increased incidence of suicides and accidental deaths can be attributed to stress and anxiety which expanded greatly due to lockdown. Social isolation decreased interpersonal interaction which became a reason for psychological disturbances. Contrarily, an accomplishment of any homicide requires effective connections and communications but these means were decreased incredibly because of multiple businesses that were shifted online during the lockdown period. Hence online trials, online banking, online studies, online shopping, and other similar practices must be encouraged in the future to help decrease the cause of conflicts that may arise during interpersonal interactions.

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