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Original article

Changing Profile of Medico-legal Autopsies at Rural Hospital: Comparative Analysis of Pre and Post COVID – 19 Pandemic Lockdown Periods

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Abstract:

Background: *The COVID-19 pandemic and subsequent lockdowns profoundly disrupted global socio-economic stability and healthcare systems. This study evaluates the temporal impact of lockdown measures on the demographic profile, manner, and causes of death in medicolegal autopsies at a rural hospital.*

Methods: *A retrospective cohort analysis was conducted on 1,371 medicolegal autopsy cases from 2019 to 2022 at Dr. Vithalrao Vikhe Patil Pravara Rural Hospital. Data were compared across five distinct periods (No Lockdown, Pre-Phase I, Phase I, Pre-Phase II, and Phase II) utilizing ANOVA, Chi-square tests, and linear regression.*

Results: *Autopsy volumes declined significantly during the lockdowns, with linear regression indicating an average decrease of 2.88 units ($p < 0.001$). Despite this overall contraction, demographic profiles remained highly consistent, predominantly involving rural adult males with a mean age of approximately 40 years. The manner of death varied significantly across the phases ($p = 0.01$), with accidental deaths reaching 60.78% in Phase II. Notably, natural deaths, homicides, and maternal deaths saw significant statistical spikes during Phase I. Diverging from widespread global trends of decreased high-velocity trauma, fatalities from road traffic accidents (RTAs) and poisoning remained remarkably stable throughout all lockdown phases in this rural cohort.*

Conclusion: *The pandemic lockdowns engineered a paradigm shift in forensic epidemiology. While autopsy volumes and specific causes of death altered significantly, the unique stability of RTA fatalities highlights the highly variable local impacts of restricted movement policies.*

Keywords: *COVID-19 pandemic, lockdown, Medicolegal autopsy, Forensic epidemiology, Road traffic accidents, Rural hospital.*

Introduction:

The COVID-19 pandemic and the global lockdowns initiated an unprecedented health crisis. These restrictions ultimately reshaped the epidemiological profile of trauma, unnatural deaths, and medicolegal autopsies worldwide (1). Significant drops in total cases and trauma admissions documented across tertiary centers globally. (2)(3)(4)(5)(6)(7)(8)(3)(9)(10)(11)(12). To handle these cases safely, forensic pathologists worldwide implemented stringent biosafety guidelines for postmortem examinations (13). Historically, road traffic accidents (RTAs) constituted the highest incidence of unnatural deaths worldwide (14)(15)(16)(17)(18). Rural Indian hospitals noted significant increases in "slip and fall at home" injuries, low-velocity trauma, falls from trees, and snake bites (19)(20). Patients who did present to hospitals often suffered from significantly worse injuries and faced higher mortality rates (21)(22). The incidence of severe head injuries and subsequent neurotrauma mortality skyrocketed. (23)(24). Delayed hospital arrivals also profoundly affected toxicological outcomes, directly contributed to increased mortality (25). The psychosocial strain of social isolation and profound economic instability triggered a secondary epidemic of psychological distress and self-harm. Suicides doubled in multiple regions, and their methods evolved (26)(27). Hangings became the overwhelmingly dominant method of suicide, as the closure of markets and lack of transportation eliminated access to traditional methods like train accidents or poisons (7)(28). "Stay-at-home" orders

effectively trapped victims of domestic abuse with their abusers (18). While overall public street assaults decreased in some regions (22). Trauma data starkly exposed the vulnerability of women, with blunt and penetrating assaults on females (18). Similar significant increases in physical and sexual assaults were recorded in India (29). Disruptions to substance supply chains and abrupt bans on alcohol sales created unique toxicological crises. Toxicological laboratories reported lethal exposures to agricultural chemicals (25). The statistically significant increase in bodies found in a state of advanced decomposition, a distinct shift toward deaths occurring at home rather than in hospitals, and natural diseases abruptly overtaking unnatural accidents as the leading cause of medicolegal autopsies (3)(11)(30).

Methodology:

A Retrospective cohort analysis was used for the study involving a retrospective review of medicolegal autopsy records. The study took place at Department of Forensic Medicine and Toxicology of PIMS DU's Dr. Balasaheb Vikhe Patil Rural Medical College and Dr. Vithalrao Vikhe Patil Pravara Rural Hospital, Loni, Maharashtra state of India.

All medicolegal autopsy cases conducted at the hospital by the Department of Forensic Medicine and Toxicology before, during and after the COVID – 19 pandemic lockdowns, specifically restricting to the cases from the year 2019 through 2022. Data was extracted retrospectively from existing records housed in the Forensic Medicine and Toxicology Department. Approval from Institutional Ethical Committee, PIMS – DU was taken with the letter dated: 10/08/2026 and Reference No: PIMS/IEC-DR/2024/365. Data analysis was performed to identify statistically significant shift in the volume and patterns of autopsies. Descriptive Statistics, Comparative Testing (ANOVA – F Test), Chi – Square test categorical variables, Linear Regression and Z Scores will be used. A p-value of <0.05 was considered statistically significant for all tests

Results:

A total of **1371 medicolegal autopsy cases** were included in the study; 1269 (92.6%) during Pre/Post/No Lockdown and 102 (7.4%) during Lockdown period.

Table 1: Characteristics of Autopsies 2019 - 2022

Variables		No Lockdown	Pre Phase I	Phase I	Pre Phase II	Phase II	$\chi 2/F$	p - value
		Mean ± SD						
	Age	42.21 ± 19.27	41.55 ± 21.40	39.00 ± 16.23	40.13 ± 15.79	41.36 ± 19.40	0.23 (3,1363)	0.87
N (%)								
Sex	Female	322 (27.69%)	12 (25.53%)	15 (29.41%)	13 (22.03%)	9 (17.65%)	11.63 (8)	0.24
	Male	840 (72.23%)	35 (74.47%)	36 (70.59%)	45 (77.27%)	42 (82.35%)		
	Unknown	1 (0.09%)	0 (0.00%)	0 (0.00%)	1 (1.69%)	0 (0.00%)		
Area	Rural	1104(94.93%)	47 (100.00%)	50 (98.04%)	54 (91.53%)	47 (92.16%)	13.00 (8)	0.06
	Urban	46 (3.96%)	0 (0.00%)	1 (1.96%)	1 (1.69%)	2 (3.92%)		
	Unknown	13 (1.12%)	0 (0.00%)	0 (0.00%)	4 (6.78%)	2 (3.92%)		
Place of Death	Hospitalized	583 (50.13%)	24 (51.06%)	22 (43.14%)	28 (47.46%)	21 (41.18%)	10.90 (8)	0.29
	Non - Hospitalized	579 (51.06%)	23 (48.94%)	29 (56.86%)	30 (50.85%)	30 (58.82%)		
	Unknown	1 (0.09%)	0 (0.00%)	0 (0.00%)	1 (1.69%)	0 (0.00%)		
Manner of Death	Accidental	542 (46.60%)	20 (42.55%)	15 (29.41%)	28 (47.46%)	31 (60.78%)	35.29 (16)	0.01
	Homicidal	43 (3.70%)	4 (8.51%)	7 (13.73%)	4 (6.78%)	0 (0.00%)		
	Natural	290 (24.94%)	10 (21.28%)	15 (29.41%)	8 (13.56%)	6 (11.76%)		

	Suicidal	283 (24.33%)	12 (25.53%)	14 (27.45%)	18 (30.51%)	14 (27.45%)		
	Unknown	5 (0.43%)	1 (2.13%)	0 (0.00%)	1 (1.69%)	0 (0.00%)		

The demographic and contextual characteristics of autopsy cases across the five study periods (No Lockdown, Pre-Phase I, Phase I, Pre-Phase II, and Phase II) are presented in Table 1. The mean age of cases was comparable across all periods, ranging from 39.00 ± 16.23 to 42.21 ± 19.27 years, with no statistically significant difference observed; F = 0.23 (3,1363), p = 0.87). Males constituted the majority of cases in all phases (70.59% – 82.35%), while females accounted for 17.65% – 29.41% of cases; however, sex distribution did not differ significantly across the study periods ($\chi^2 = 11.63_{(8)}$, p = 0.24). The majority of cases originated from rural areas (91.53% – 100.00%), with a small proportion from urban areas, and this distribution was not statistically significant across phases ($\chi^2 = 13.00_{(8)}$, p = 0.06). Similarly, the place of death (hospitalized vs. non-hospitalized) showed no significant variation between the study periods ($\chi^2 = 10.90_{(8)}$, p = 0.29). In contrast, the manner of death demonstrated a statistically significant difference across phases ($\chi^2 = 35.29_{(16)}$, p = 0.01). Accidental deaths constituted the largest proportion overall and increased notably during Phase II (60.78%), while suicidal deaths ranged from 24.33% to 30.51%, natural deaths from 11.76% to 29.41%, and homicidal deaths remained relatively infrequent across all periods. Overall, except for the manner of death, no significant differences were observed in demographic characteristics or place of death across the different lockdown phases.

Table 2: Regression on Deseasonalized Data (N = 53 Weeks)

Regression						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	29.73	1.62	18.33	0.00	26.47	32.98
Lockdown	-2.88	0.83	-3.48	0.00	-4.54	-1.22

A simple linear regression was conducted to evaluate the effect of Lockdown on the deseasonalized outcome variable (n = 53 Weeks). The model showed a moderate correlation (Multiple R = 0.44) with an R^2 of 0.19, indicating that 19% of the variability in the outcome variable is explained by the lockdown variable. The regression coefficient for Lockdown was −2.88 (SE = 0.83, t = −3.48, $p < 0.001$), suggesting that the lockdown period was associated with an average decrease of approximately 2.88 units in the deseasonalized outcome variable. The 95% confidence interval for this estimate ranged from −4.54 to −1.22, indicating a statistically significant negative effect. The intercept (29.73) represents the expected value of the outcome variable when the lockdown variable is zero. Overall, the findings indicate that lockdown had a statistically significant negative impact on the deseasonalized outcome measure, although the model explains a moderate proportion of the variance.

Table 3: Statistics for Autopsies in Each Timeframe

Lockdown	**Mean**	**Std. Error**	**95% Confidence Interval**	
			Lower Bound	**Upper Bound**
No	27.20	1.10	24.98	29.42
Phase I	15.53	4.08	7.32	23.74

Phase II	17.59	4.08	9.38	25.80
Pre Phase I	20.71	4.08	12.50	28.92
Pre Phase II	19.97	4.08	11.76	28.18

The mean number of autopsies varied across different lockdown timeframes. The highest mean was observed during the No Lockdown period (27.20; 95% CI: 24.98–29.42). During the lockdown phases, the mean number of autopsies was lower, with Phase I showing the lowest mean (15.53; 95% CI: 7.32–23.74). The Pre-Phase I (20.71; 95% CI: 12.50–28.92) and Pre-Phase II (19.97; 95% CI: 11.76–28.18) periods showed intermediate values, while Phase II (17.59; 95% CI: 9.38–25.80) remained lower than the no-lockdown period. Overall, the descriptive statistics suggest a reduction in the mean number of autopsies during lockdown phases compared to the no-lockdown period, with relatively wider confidence intervals during lockdown phases indicating greater variability.

Table 4: Post Hoc Comparisons for Autopsies by each time frame

			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Post - Hoc Comparison	No	Phase I	**11.67**	**4.23**	**.008**	**3.16**	**20.17**
		Phase II	**9.60**	**4.23**	**.028**	**1.10**	**18.11**
		Pre Phase I	6.49	4.23	.132	-2.02	14.99
		Pre Phase II	7.23	4.23	.094	-1.28	15.73
	Phase I	Phase II	-2.06	5.78	.723	-13.67	9.55
		Pre Phase I	-5.18	5.78	.374	-16.79	6.43
		Pre Phase II	-4.44	5.78	.446	-16.05	7.17
	Phase II	Pre Phase I	-3.12	5.78	.592	-14.73	8.50
		Pre Phase II	-2.38	5.78	.682	-13.99	9.24
	Pre Phase I	Pre Phase II	0.74	5.78	.899	-10.87	12.35

Post hoc analysis showed that the No Lockdown period had significantly higher autopsy counts compared with Phase I (Mean difference = 11.67, p = 0.008) and Phase II (Mean difference = 9.60, p = 0.028). However, no statistically significant differences were observed between the No Lockdown period and Pre-Phase I (p = 0.132) or Pre-Phase II (p = 0.094). Similarly, comparisons among Phase I, Phase II, Pre-Phase I, and Pre-Phase II were not statistically significant (p > 0.05). The results indicate that autopsy numbers were significantly lower during the lockdown phases (Phase I and Phase II) compared with the no-lockdown period, while differences among the other timeframes were not significant.

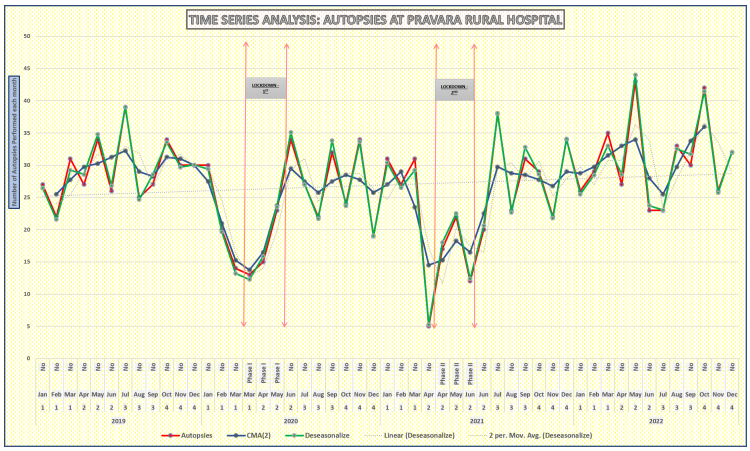


Table 5: Autopsies 2019 through 2022 by Cause of Death

Lockdown Phases → / Cause of Death ↓	No	%	Pre Phase I	%	Z Score (No vs Pre Phase I)	Phase I	%	Z Score (No vs Phase I)	Pre Phase II	%	Z Score (No vs Pre Phase II)	Phase II	%	Z Score (No vs Phase II)	Grand Total
ASPHYXIA	131	11.26	4	8.51	0.59	7	13.73	-0.54	0	0.00	***2.73*** **	0	0.00	***2.54*** **	**142**
BURNS	70	6.02	5	10.64	-1.28	4	7.84	-0.53	6	10.17	-1.28	1	1.96	1.21	**86**
ELECTROCUTION	28	2.41	0	0.00	1.07	0	0.00	1.12	0	0.00	1.21	1	1.96	0.20	**29**
FIRE ARM/GUNSHOT	7	0.60	0	0.00	0.53	1	1.96	-1.17	0	0.00	0.60	0	0.00	0.56	**8**
HOMICIDE/ASSUALT	31	2.67	4	8.51	-2.34	5	9.80	***-2.94*** **	2	3.39	-0.33	0	0.00	1.18	**42**
MATERNAL DEATH	37	3.18	0	0.00	1.24	1	1.96	***-2.53*** **	2	3.39	-0.09	1	1.96	0.49	**41**
NATURAL DEATH	102	8.77	10	21.28	***-2.90*** **	14	27.45	***-4.44*** **	0	0.00	***2.38*** **	0	0.00	***2.21*** **	**126**
OPINION RESERVED	62	5.33	1	2.13	0.97	0	0.00	1.69	2	3.39	0.65	4	7.84	-0.77	**69**
OTHERS	205	17.63	0	0.00	***3.16*** **	0	0.00	***3.29*** **	18	30.51	***-2.50*** **	19	37.25	***-3.54*** **	**242**
POISONING	187	16.08	8	17.02	-0.17	9	17.65	0.30	9	15.25	0.17	5	9.80	1.20	**218**
RTA & INJURIES	282	24.25	15	31.91	-1.19	8	15.69	1.40	20	33.90	-1.68	18	35.29	-1.79	**343**
SNAKE BITE	21	1.81	0	0.00	0.93	2	3.92	-1.08	0	0.00	1.04	2	3.92	-1.08	**25**
Grand Total	1163	100	**47**	100		**51**	100		**59**	100		**51**	100		**1371**
p value: ***** = 0.001, ** = 0.01, * = 0.05, . = 0.1**															

A total of 1,371 autopsies were analyzed from 2019–2022 across different lockdown phases. The most common cause of death was RTA & injuries (24.25%), followed by others (17.63%), poisoning (16.08%), and asphyxia (11.26%) during the no-lockdown period. Significant differences were observed for several causes of death when compared with the no-lockdown period. Natural deaths increased significantly during Pre-Phase I and Phase I ($p \leq 0.01$) but were significantly lower during Pre-Phase II and Phase II ($p \leq 0.01$). Homicide/assault and maternal deaths were significantly higher during Phase I ($p \leq 0.01$). The category "Others" showed significant variation across

phases, being lower in Pre-Phase I and Phase I but significantly higher in Pre-Phase II and Phase II ($p \leq 0.01$). Asphyxia also showed significant reductions in Pre-Phase II and Phase II ($p \leq 0.01$).

In general, the results indicate that the distribution of causes of death changed during the lockdown phases, with notable shifts in natural deaths, homicide/assault, maternal deaths, and the "others" category, while poisoning and RTA/injuries remained relatively stable without statistically significant changes.

Discussion:

The unprecedented global implementation of lockdown measures during the COVID-19 pandemic precipitated profound disruptions in socio-economic paradigms, healthcare access, and the epidemiological patterns of mortality and trauma. The present study evaluated these shifts by analyzing 1,371 medicolegal autopsy cases. Our regression model demonstrated a statistically significant decline in the overall volume of autopsies during the lockdown period, with an average reduction of 2.88 units in the deseasonalized outcome. This sharp contraction in medicolegal caseloads corroborates a universal trend documented across numerous tertiary centers globally. Studies from various regions in India (6)(5)(8)(4), Sri Lanka (3), Greece (15), and rural cohorts (13), (9), (10), (2), universally reported trauma and autopsy volume reductions ranging from 24% to over 50%. Despite these severe volumetric fluctuations, our study observed that demographic profiles remained remarkably consistent, with a strong male predominance (72.2% to 82.3%) and a mean age hovering around 40 years. This demographic stability is extensively validated in the literature, reflecting the persistent occupational and societal exposure of adult males even amidst strict mobility restrictions. (13)(9)(10)(2)

A highly salient finding in our data is the relative stability of RTA and injury-related deaths, which maintained a steady proportion (24.25% to 35.29%) without statistically significant variation across lockdown phases. This sharply contrasts with the prevailing global consensus. A multitude of comparative studies—spanning Israel (21), Peru (31), the UK (16), and various Indian and international trauma centers (20)—reported massive declines in high-velocity trauma and RTAs due to strict "stay-at-home" mandates and significantly reduced vehicular traffic. Baseline epidemiological data typically positions RTAs as the leading cause of unnatural death (14).

The psychological ramifications of quarantine—exacerbated by extreme isolation, economic instability, and fear of the virus—triggered a global surge in self-harm and substance-related emergencies (1). While our study found that poisoning deaths remained relatively stable, comparative literature highlights a stark increase in hangings and suicides during the lockdown. Das et al. and Aggarwal et al. reported alarming rises in suicidal deaths, linking them to pandemic-induced emotional tides, domestic friction, and financial ruin (28)(12). Furthermore, abrupt restrictions on the sale of alcohol led to complex outcomes; some regions reported complicated alcohol withdrawal and the fatal consumption of toxic alcohol alternatives. (25). The stability of poisoning in our dataset, juxtaposed against the spikes in hangings reported by Rathore et al. and others (7)(26), suggests a potential regional shift in the *means* of suicide rather than the underlying intent, likely driven by restricted access to agricultural poisons or medications during the lockdown.

Our study revealed statistically significant fluctuations in homicides and assaults when compared to the no-lockdown period. This aligns with a complex, dichotomous trend seen in the broader literature. On one hand, restrictions on public gatherings led to a precipitous drop in street crimes and outdoor homicides in locales such as Greece (15), Sri Lanka (3), and Pakistan (27). Conversely, the lockdown effectively trapped vulnerable individuals within confined spaces with their abusers, leading to a shadow pandemic of domestic violence. This is corroborated by significant increases in blunt trauma patterns among women in South Africa (18), and general increases in medicolegal assault cases presenting to emergency departments (29). Urban trauma centers in the US similarly noted that while overall trauma decreased, penetrating injuries and interpersonal violence persisted or worsened (22).

These results also indicated a significant variance in natural and maternal deaths. This is a critical indicator of the pandemic's collateral damage on routine healthcare. Babu et al. and Selliah et al. noted a significant increase in deaths occurring at home, primarily driven by the public's fear of contracting COVID-19 at hospitals and the massive diversion of medical resources away from chronic disease management (3)(11). Bates similarly reported an

increase in advanced decomposition among coronial autopsies in London, reflecting the delayed discovery of bodies due to severe social isolation (30).

Conclusion:

The COVID-19 lockdown engineered a paradigm shift in forensic epidemiology. While our specific cohort demonstrated unique stabilities in RTA and poisoning deaths, the significant alterations in homicides, natural deaths, and overall autopsy volumes perfectly mirror the systemic shocks and healthcare disruptions reported across comparative international studies.

References:

1. Meo SA, Abukhalaf AA, Alomar AA, AlMutairi FJ, Usmani AM, Klonoff DC. Impact of lockdown on COVID-19 prevalence and mortality during 2020 pandemic: observational analysis of 27 countries. Eur J Med Res [Internet]. 2020;25(1):1–7. Available from: https://doi.org/10.1186/s40001-020-00456-9
2. Kumar V, Biswas J, ZampelBhutia T, Chhetri D, Maitra R, Deb PK. Demographic Studies of Autopsied Cases at North Bengal Medical College Hospital During the National Lockdown Period Due to COVID 19 Pandemic. Indian J Forensic Med Toxicol. 2021;15(3):599–603.
3. Pranavan S, Raveendran S, Mayorathan U, Munasinghe BM, Vasutheva K, Subramaniam N. Impact of 100 days of COVID-19 lockdown on death patterns and mortality demographics of medico-legal autopsies done in the Northern Province of Sri Lanka. Sri Lanka J Forensic Med Sci Law. 2022;13(1):21–8.
4. Ajesh P P, Levis Vaseem M, Aswathy Raj S V. Impact of COVID 19 lockdown on Medico Legal Cases in a Tertiary Care Hospital in North Kerala. Indian J Forensic Med Toxicol. 2023;17(4):1–5.
5. Chopra RK, Walia DS, Aggarwal AD. Impact of covid lockdown on autopsy cases: A comparative study. J Punjab Acad Forensic Med Toxicol. 2020;20(2):82–4.
6. Kumar R, Naik S, Prakash A, Singh S. Impact of COVID-19 Pandemic on Magnitude, Cause and Manner of Medico-legal Cases in A Tertiary Care Hospital, New Delhi. Eur J Med Heal Sci. 2023;5(3):23–6.
7. Rathore S, Yadav A, Kumari S, Sharma V, Verma AK. Impact of Lockdown on Autopsy Cases in a Tertiary Medical Centre in Northern India: A Retrospective Analysis. J Indian Acad Forensic Med. 2022;44(4):31–7.
8. Roy LM, Pate R, Husain BN, Ghadge M, Kennedy A. Medicolegal autopsy analysis during Covid-19 pandemic in India. Bioinformation. 2025;21(08):2400–4.
9. Jai Prakash Soni, Sarthak Juglan. Profile of Medico-Legal Autopsies Conducted at Tertiary Medico-Legal Centre in Northern Madhya Pradesh along with Effect of Lock Down. Med Leg Updat. 2024;24(3):43–7.
10. Patel SH, Gupta SK, Goswami DD. Profile of Medico-legal Autopsy Cases in a Rural based Tertiary Care Hospital of Central Part of Gujarat during COVID-19 Pandemic: A One Year Retrospective Study. J Indian Acad Forensic Med. 2023;45(4):354–6.
11. Babu SS, Raveendran R, KA A. Comparison of pattern of death during Pre-lockdown period and COVID 19 lockdown period in Central Kerala – An Autopsy Study. Asian J Med Sci. 2021;12(7):17–21.
12. Aggarwal AD, Chahal PS, Bhullar DS, Walia D, Singh SP. Trends in Autopsy Cases During COVID-19 Pandemic Restrictions. J Forensic Med Toxicol. 2021;38(1):98–101.
13. Hafeez N, Zehra SH, Murad T, Rehman A, Zafar A, Sana SG. Comparative Analysis of Autopsy Case Characteristics Before and During the COVID-19 Lockdown at DHQ Sahiwal. Pakistan J Heal Sci. 2025;88–91.
14. Singh Y, Bairagi Kaustav, Das Kanak. An epidemiological study of road traffic accident victims in medicolegal autopsies. J Indian Acad Forensic Med [Internet]. 2005;27(3):166–9. Available from: http://medind.nic.in/jal/t05/i3/jalt05i3p166.pdf
15. Sakelliadis EI, Katsos KD, Zouzia EI, Spiliopoulou CA, Tsiodras S. Impact of Covid-19 lockdown on characteristics of autopsy cases in Greece. Comparison between 2019 and 2020. Forensic Sci Int. 2020;313(January).
16. Rajput K, Sud A, Rees M, Rutka O. Epidemiology of trauma presentations to a major trauma centre in the

North West of England during the COVID-19 level 4 lockdown. Eur J Trauma Emerg Surg [Internet]. 2021;47(3):631–6. Available from: https://doi.org/10.1007/s00068-020-01507-w

17. Calderon-Anyosa RJC, Kaufman JS. Impact of COVID-19 lockdown policy on homicide, suicide, and motor vehicle deaths in Peru. Prev Med (Baltim). 2021;143(November 2020).
18. Zsilavecz A, Wain H, Bruce JL, Smith MTD, Bekker W, Laing GL, et al. Trauma patterns during the COVID-19 lockdown in South Africa expose vulnerability of women. South African Med J. 2020;110(11):1110–2.
19. Bhat AK, Kamath K S. Comparative study of orthopaedic trauma pattern in covid lockdown versus non-covid period in a tertiary care centre. J Orthop [Internet]. 2021;23(November 2020):1–7. Available from: https://doi.org/10.1016/j.jor.2020.11.008
20. Waghmare A, Shrivastava S, Date S. Effect of covid-19 lockdown in trauma cases of rural india. Int J Res Pharm Sci. 2020;11(Special Issue 1):365–8.
21. Rozenfeld M, Peleg K, Givon A, Bala M, Shaked G, Bahouth H, et al. Covid-19 changed the injury patterns of hospitalized patients. Prehosp Disaster Med. 2021;36(3):251–9.
22. Jaber CA, Fu CY, Bryan FE, Starr FL, Kaminsky MJ, Tatebe LC, et al. Changes in trends during the COVID-19 lockdown: An urban, Level-1 trauma center's experience. Am J Surg [Internet]. 2021;222(4):832–41. Available from: https://doi.org/10.1016/j.amjsurg.2021.02.015
23. Nayak N, Singh PR, Sharma RK, Gupta SK, Gandhoke CS, Sharma AK. Impact of COVID-19 Pandemic during the Lockdown on the Traumatic Brain Injury—An Institutional Experience. Indian J Neurotrauma. 2022;19(01):007–11.
24. Goyal N, Srikantkumar S, Kanav G, Chaturvedi J, Arora R, Sharma SK. "Locked up inside home" - Head injury pattern during coronavirus disease in 2019 pandemic. Surg Neurol Int. 2022;11(395):1–9.
25. Fayed MM, Sharif AF. Impact of Lockdown due to COVID-19 on the Modalities of Intoxicated Patients Presenting to the Emergency Room. Prehosp Disaster Med. 2021;36(2):145–62.
26. Subramanyam S, Janardhanan J, Das UB, Kandasamy R. Impact of COVID-19 lockdown on characteristics of unnatural deaths autopsied at a tertiary care center in Pondicherry. J Curr Res Sci Med. 2024;9(2):99–103.
27. Nadeem S, Sarwar S, Rehman H, Iftikhar H, Saleem N, Tariq F. Pattern of unnatural deaths during COVID-19 lockdown in comparison with deaths reported during 2019 in Sahiwal city. J Rawalpindi Med Coll. 2021;25(1):84–8.
28. Das RR, Saurav K, Singh RR. Comparative Study of Trend of Suicidal Cases in the Lockdown Period during Severe Phase of First Wave of COVID-19 with Those in Second Wave in Patna among Dead Bodies Brought for Autopsy at Nalanda Medical College, Patna - A Retrospective Study. Int J Res Rev. 2021;8(12):431–7.
29. Murad T, Ahmed S, Ramzan R, Ali F, Masood R, Rana SG. Prevalence of Medicolegal Cases During Covid-19 Pandemic Lockdown; A Local Experience. Pakistan J Heal Sci. 2025;222–7.
30. Bates AWH. Characteristics of Coronial Autopsy Cases in the London Area of the United Kingdom, Pre and Post COVID-19 Lockdown. Acad Forensic Pathol. 2023;13(1):3–8.