

Decline in alcohol-induced acute pancreatitis-related mortality post the COVID-19 pandemic

Carol Singh¹, Anmol Singh², Sahiljot S. Bhuppal¹, Vikash Kumar³, Aalam Sohal³, Divyesh Sejpal³

1. Dayanand Medical College and Hospital, Ludhiana, Punjab
2. Tristar Centennial Medical Center, Nashville, TN
3. Creighton University School of Medicine, Pheonix, AZ

PURPOSE / OBJECTIVES

- A significant **increase in alcohol consumption and related mortality** was noted during the **COVID-19 pandemic**.
- Research also suggested that persistence of these trends would lead to increased mortality rates and greater healthcare burden due to alcohol-induced acute pancreatitis.
- Our current study **aims to investigate trends in alcohol-induced pancreatitis deaths**, focusing on **whether the pandemic-driven surge has continued in the post-pandemic period or returned to pre-pandemic levels**.

MATERIAL & METHODS

- The **provisional multiple causes of death data** from the **National Vital Statistical System (NVSS)** provided by the **Centers for Disease Control and Prevention** was used to analyze mortality trends for alcohol-induced acute pancreatitis before, during, and after the pandemic.
- All patients who died from alcohol-induced acute pancreatitis** were investigated between **January 1st, 2018 and December 1st, 2024**.
- Patient demographics such as age, sex, ethnicity, and geographic location were evaluated in this study to identify trends in mortality over time.

RESULTS

- During 2018-2024, **4,344 deaths** were attributed to alcohol-induced acute pancreatitis.
- Our analysis revealed that **mortality increased from 507 deaths in 2019 to a peak of 773 in 2021** (average annual percent change (AAPC)-11.4%) before **declining to 517 in 2024** (AAPC- (-11.4%)) (**Figure 1**).
- Among **men**, mortality **increased from 377 in 2018 to 557 in 2021** (AAPC-17.8%) and **decreased to 368 in 2024** (AAPC- (-11.3%)).
- Women's** mortality increased from **130 in 2018 to 216 in 2021** (AAPC-22.1%) and declined to **149 in 2024** (AAPC- (-10.3%)).
- The **mortality in Hispanics remained stable**, from 66 in 2020 to 67 in 2024. The mortality rate in **non-Hispanics increased from 464 in 2018 to 704 in 2021** (AAPC-11.3%). But the mortality **decreased to 447 in 2024** (AAPC- (-12.1%)).

RESULTS

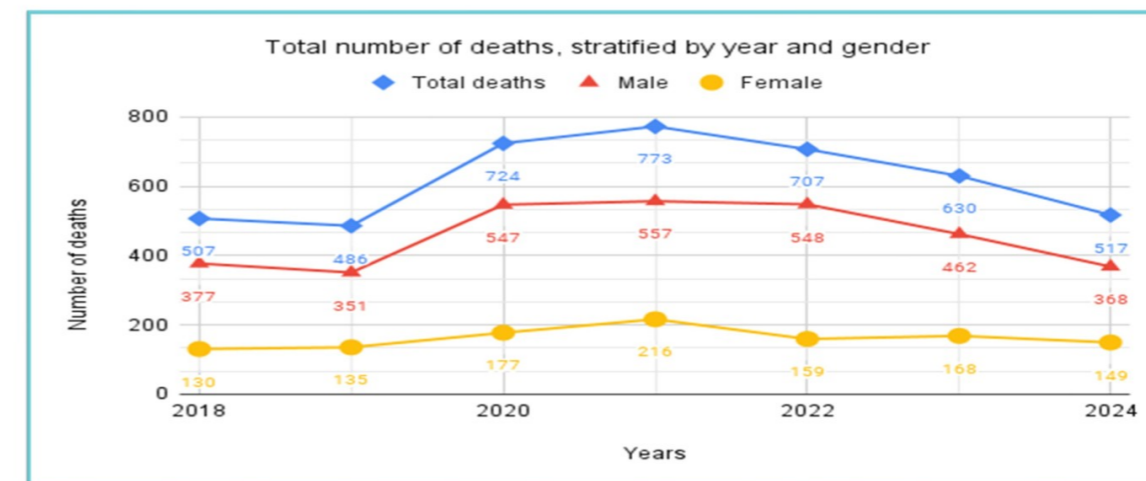


Figure 1. Total number of deaths, stratified by year and gender.

	2018		2019		2020		2021		2022		2023		2024 Till December 01,2024	
	Number of deaths	Age-adjusted/ Crude rate	Number of deaths	Age-adjusted/ Crude rate	Number of deaths	Age-adjusted/ Crude rate	Number of deaths	Age-adjusted/ Crude rate	Number of deaths	Age-adjusted/ Crude rate	Number of deaths	Age-adjusted/ Crude rate	Number of deaths	Age-adjusted/ Crude rate
Total Number	507	0.2	486	0.2	724	0.3	773	0.4	707	0.3	630	0.3	517	0.3
Age Group (years)														
25-34	47	0.1	63	0.1	103	0.2	94	0.2	100	0.2	65	0.1	79	0.2
35-44	95	0.2	85	0.2	151	0.4	177	0.4	159	0.4	142	0.3	121	0.3
45-54	136	0.3	109	0.3	148	0.4	185	0.5	145	0.4	146	0.4	114	0.3
55-64	147	0.3	141	0.3	201	0.5	185	0.4	176	0.4	157	0.4	113	0.3
65-74	56	0.2	70	0.2	93	0.3	97	0.3	101	0.3	94	0.3	68	0.2
75-84	26	0.2	18	Unreliable	28	0.2	35	0.2	26	0.1	26	0.1	22	0.1
Sex														
Male	377	0.3	351	0.3	547	0.5	557	0.5	548	0.5	462	0.4	368	0.4
Female	130	0.1	135	0.1	177	0.2	216	0.2	159	0.1	168	0.1	149	0.1
Race/Ethnicity														
Hispanic	43	0.1	43	0.1	66	0.2	66	0.2	61	0.2	64	0.2	67	0.2
Non-Hispanic	464	0.3	442	0.2	657	0.3	704	0.4	642	0.3	564	0.3	447	0.3

Table 1. Age-adjusted/Crude Rate and number of deaths attributed to alcohol-induced acute pancreatitis from 2018 to 2024.

SUMMARY / CONCLUSION

- Our analysis provides clear evidence that the **increase in alcohol-induced acute pancreatitis was transient and likely driven by the stressors of the COVID-19 pandemic**.
- These results underscore the importance of early recognition and mitigation of these stressors to prevent sustained increases in alcohol-induced acute pancreatitis mortality.