



## A Retrospective Study of Patients with Acute Pancreatitis in Northern Part of India

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### Abstract

The Inflammation of the pancreas is called pancreatitis. Pancreatitis symptoms include nausea, vomiting, weight loss, stomach pain, and moderate to severe indigestion. Throughout the past 20 years, there has been an increase in the incidence and hospitalisation rates of acute pancreatitis. The distribution of gender, age groups, and length of hospital stay among acute pancreatitis patients who visited SSB Heart and Multi-speciality Hospital in northern India between January, 2022 and November of 2023 is the main focus of this retrospective study. We observed almost equal distribution of gender of the patients. Additionally, the age ranged of 20 to 60 showed the maximum incidence of the disease. The hospital stay ranged from 1 day to 21 days with an average stay of  $4.1 \pm 1.7$  days.

**Keywords:** Pancreatitis; Multispeciality Hospital

### Introduction

Pancreatitis is defined by the inflammatory condition of pancreas. The symptoms involved with pancreatitis involve moderate to severe indigestion, stomach pain, nausea, vomiting and weight loss. Acute pancreatitis and chronic pancreatitis are the two main categories of pancreatitis. Throughout the past 20 years, there has been an increase in the incidence and hospitalisation rates of acute pancreatitis [1-3]. The increase in incidence has been observed in both adult and pediatric populations [4]. A state wide study conducted in a Columbus hospital found that between 2002-05 to 2009-12, the number of admissions attributable to acute pancreatitis increased by 13.3% [5]. Similarly acute pancreatitis cases in Wales, UK increased by 2.7% annually between 1999 and 2010, from 27.6 cases per 100,000 people to 35.9 cases [6]. According to the Indian data, only occasional data were analysed; no multi-centric studies were available, making it difficult to determine the precise occurrence. Individuals with moderate edematous pancreatitis have a 3% mortality rate from acute pancreatitis [7].

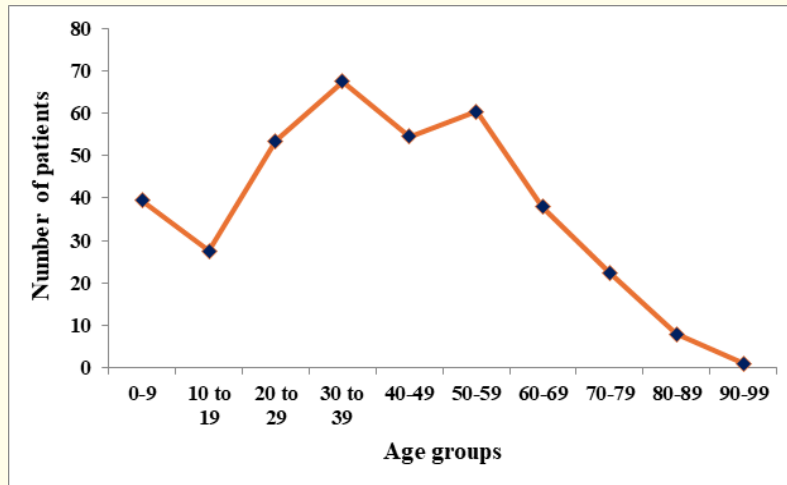
When the pancreas is inflamed, it can cause acute pancreatitis, which manifests clinically as intense stomach discomfort and can lead to serious local and systemic consequences [8]. Acute pancreatitis is most frequently caused by gallstones and alcohol misuse. An ongoing cause of acute pancreatitis may result into recurrent acute pancreatitis which can further worsen to chronic pancreatitis. A number of factors, including smoking, alcohol consumption, and genetic mutations, can lead to chronic pancreatitis [9]. This is a retrospective study on the patients with acute pancreatitis, who had visited SSB Heart and Multispeciality Hospital in northern part of India from January, 2022 to November, 2023.

### Methodology

This is a retrospective study where we have studied 378 patients with pancreatitis who had visited SSB Heart and Multispeciality Hospital situated in northern part of India from January, 2022 to November, 2023. The patients were all from Faridabad and were of both genders. The age of the patients varied from 1 year 1 month to 92 years with an average age of 37 years. The hospital stay of the patients depended on the severity of the disease and varied from 1 day to 21 days. All of the patients were discharged on a routine basis. All the patients belonged to same ICD code, K85.9.

### Result

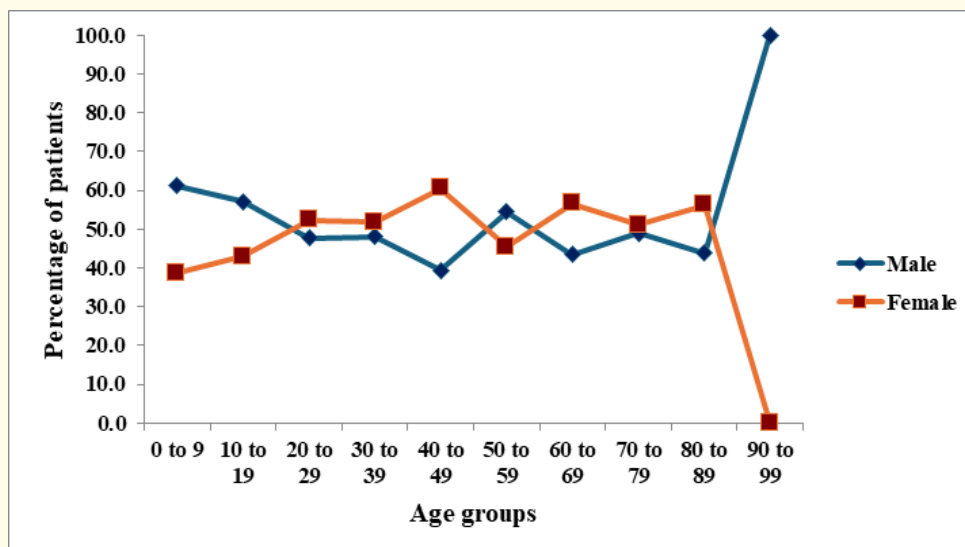
In this study, the age of the patients ranged from one year and one month to 92 years. The age group of 30 to 39 years old accounted for the largest number of pancreatitis patients followed by the age group 50-59 years. Next, there was nearly equal numbers of patients from the age groups, 20 to 29 and 40 to 49 years. The lowest number of patients was observed in the age group, 90-99. Number of patients from each age group who visited the SSB Heart and Multispeciality Hospital from January, 2022 to November, 2023 is described in Figure 1. 188 (49.7%) of the 378 patients were male, while the remaining 190 (50.3%) were female. Male patients outnumbered their female counterparts in the age groups 0-9, 10-19, 50-59 and 90-99 years. There was only one male and one female in the age group 90-99 years. There were more female patients than male patients in all other age categories (Figure 2). Another important factor observed was hospital stay. Hospital stays ranged from 1 day to 21 days with an average of  $4.1 \pm 1.7$  days. The average longest hospital stay of  $6 \pm 0.7$  days was observed in the oldest age group i.e. 90-99 years. This was followed by an average hospital



**Figure 1:** Number of patients with pancreatitis of all age groups who visited the SSB Heart and Multispeciality Hospital from January, 2022 to November, 2023.

**Table 1:** Age group wise hospital stay.

	0 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99
Average number of days in hospital (Mean ± SD)	4 ± 1	4 ± 0.6	4 ± 0.6	4 ± 0.7	4 ± 0.6	4 ± 0.8	4 ± 1.2	4 ± 0.9	5 ± 1.7	6 ± 0.7



**Figure 2:** Percentage of male and female patients with pancreatitis in each age group who visited the SSB Heart and Multispeciality Hospital from January, 2022 to November, 2023.

stay of  $5 \pm 1.7$  days in the 80-89 year old age group. Patients from rest other age groups had an average hospital stay of 4 days. The average number of hospital stay in each age group is described in Table 1.

### Discussion

Previous research has shown that women experience a significantly higher rate of gallstone pancreatitis, accounting for up to 30.2% of cases for all-cause acute pancreatitis compared to 19.3% for men [10-12]. But there are more adverse consequences linked to male. On the other hand, alcohol-induced acute pancreatitis is more common in men; in the US, men account for 72.8% of cases [10,13,14]. In addition, men are more likely than women to have pancreatitis due to alcohol-related causes, with non-alcoholic aetiologies accounting for up to 70% of cases in women [15-18]. Similarly, men account for 67.3% of cases of Hypertriglyceridemia-induced acute pancreatitis, which is higher than the rate in women [10,19,20]. The gender distribution of the pancreatitis patients in our study was nearly equal, with females (50.3%) slightly more than the males (49.7%). Both acute and chronic pancreatitis may affect at any age, although it is more common in middle-aged and older adults. For men and women, respectively, the peak incidence age of alcohol-associated acute pancreatitis is 35-44 years old and 25-34 years old [21]. The age range of 20-60 years old accounted for the majority of pancreatitis patients in our study. According to a study by Karim, *et al.* patients with mild pancreatitis spent an average of 9 days in the hospital, while those with severe pancreatitis spent 13.5 days [22]. However, in a study by Gurleyik, *et al.* the average length of stay in mild pancreatitis cases was 10.3 days, while the average length of stay in severe pancreatitis was 21.4 days [23]. According to Banday, *et al.* hospital stays for mild, moderate, and severe acute pancreatitis were 1.55, 6.9, and 14.2 days, respectively [24]. In a similar vein, the average length of hospital stay in our study was  $4.1 \pm 1.7$  days (range: 1 to 21 days). As expected due to age complications, a longest stay of  $6 \pm 0.7$  years was observed in the oldest age group of 90 to 99 years. Similarly, the following age group, 80-89 years, had the second largest hospital stay.

### Conclusion

This retrospective study presented an overview of the distribution of gender, age, and length of hospital stay of patients in northern India.

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