

# Frailty is Independently Associated with Higher Mortality and Readmissions in Hospitalized Patients with Acute Biliary Pancreatitis: A National Database Study

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## THE NEED

- Acute pancreatitis is the most common gastrointestinal cause of hospital admissions in the United States of which biliary or gallstone disease is the most common inciting factor.
- While age has been used as a predictor of clinical outcomes among patients with pancreatitis, a more comprehensive measure is needed to assess physiologic reserve and functional capacity to determine overall risk.
- Aim: Estimate the effects of frailty on burden, costs, and causes for hospitalization in patients with acute biliary pancreatitis.

## METHODS

- We analysed the Nationwide Readmission Database from 2016 to 2019 for patients with acute biliary pancreatitis.
- Patients were included in the study if they were at least 18 years of age with a non-elective admission diagnosis of biliary pancreatitis without cholangitis (included ICD-10-CM code K851; excluded ICD-10-CM codes: K803, K830, K839) from January to November;
- Patients were categorized into two groups, frail and non-frail, based on the Hospital Frailty Risk Score.
- Logistic and Cox regression were used to predict the impact of frailty on 30-day readmission, length of stay, mortality, and costs.

Frailty is independently associated with higher mortality and burden of healthcare utilization in patients with acute biliary pancreatitis.

## CHARACTERISTICS

- 162,202 index hospitalizations
- 59.2% (n=96,045) were female
- 22.49% (n=36,475) classified as frail.
- Most patients (67.1%, n= 108,906) were admitted to a teaching hospital.

## AGE ASSOCIATED OUTCOMES

Age Groups	OR	p-value	95% CI
Under 40 years	1.00		
40 – 49 years	1.07	0.199	[0.96 - 1.19]
50 – 59 years	1.06	0.227	[0.96 - 1.16]
60 – 69 years	0.89	0.037	[0.80 - 0.99]
70 – 79 years	0.86	0.017	[0.76 - 0.97]
80+ years	0.82	0.003	[0.73 - 0.94]

## RESULTS

- Readmissions within 30 days were higher among frail patients (12.58% vs 7.09%, P <0.001) compared to non-frail patients respectively.
- Regression modelling showed that frail patients had higher odds of readmission (OR: 1.32; 95% CI 1.24-1.42, P <0.001), longer lengths of stay (8.18 days vs 4.11 days), and higher average costs of hospitalization (\$21,511 vs \$12,261) compared to non-frail patients respectively.
- Cox regression showed that frail patients had a higher risk of mortality (HR 5.43; 95% CI 4.06 – 7.29, P<0.001) compared to non-frail patients, respectively.

