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A OBSERVATIONAL STUDY ON QUALITY OF LIFE IN ACUTE AND CHRONIC PANCREATITIS PATIENTS

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ABSTRACT

Background: Pancreatitis is an inflammatory disease of the pancreas that can have a major impact on a patient's physical and mental health. Damage to the pancreas can result in a number of issues that have a detrimental effect on patients' quality of life because the organ is crucial to digestion and metabolism. The Short Form Health Survey (SF-36) was used in this study to evaluate the health-related quality of life (HRQoL) of patients with acute and chronic pancreatitis.

Methods: An observational study was conducted at the PNR Gut and Liver Clinic, Hanmakonda, Telangana, India, from September 2024 to March 2025. Patients visiting the gastroenterology department who met the inclusion criteria were enrolled in the study. Data were collected from case sheets, prescriptions, laboratory reports, and questionnaires. HRQoL was evaluated using the SF-36 questionnaire covering eight health domains. A total of 84 patients were screened, and 63 eligible patients were included in the final analysis.

Results: Among the 63 patients, 82.5% were males and 17.5% were females, with the majority belonging to the 31–40 years age group. Acute pancreatitis was observed in 66.6% of patients, while 33.4% had chronic pancreatitis. Patients with acute pancreatitis showed comparatively higher HRQoL scores, whereas patients with chronic pancreatitis demonstrated significantly lower scores across most domains, indicating a greater negative impact on their quality of life.

Conclusion: The study findings indicate that pancreatitis, particularly chronic pancreatitis, significantly affects patients' quality of life. Early diagnosis, effective management, and supportive care may help improve the overall well-being of these patients.

Keywords: Pancreatitis, SF-36 Questionnaire, Gastroenterology, Health-Related Quality of Life

INTRODUCTION

The gastroenterology department focuses on diagnosing, treating, and managing diseases affecting the digestive system, including the upper and lower gastrointestinal tract and accessory organs [1]. The pancreas is one such accessory organ. It is a long, retroperitoneal gland located in the upper abdomen with both exocrine and endocrine components. Structurally, it is divided into the head, body, and tail. The head lies within the C-shaped curve of the duodenum, while the body and tail extend toward the spleen. The pancreatic duct transports digestive juices and joins the bile duct to empty into the duodenum via the ampulla of Vater [2]. The pancreas performs two major functions. Its exocrine function involves producing digestive enzymes necessary for food breakdown, while its endocrine function includes the secretion of hormones that regulate blood sugar and metabolic processes [3]. Due to these roles, the pancreas significantly influences overall body function. Pancreatic insufficiency occurs when the pancreas cannot produce sufficient digestive enzymes, leading to impaired digestion and nutrient absorption. This condition usually results from pancreatic damage caused by recurrent acute pancreatitis, chronic pancreatitis, diabetes, autoimmune diseases, or surgical removal of pancreatic tissue. In some cases, pancreatic

or gastrointestinal cancers may also contribute [4].

Acute pancreatitis (AP) is a major gastrointestinal disorder characterized by sudden inflammation of the pancreas. It ranges from mild, self-limiting cases to severe forms with high morbidity and mortality. AP is a common cause of abdominal pain and has shown increasing global incidence. The most common cause is gallstones, which block the pancreatic duct and trigger premature enzyme activation [5]. Excessive alcohol consumption is another key cause, leading to direct pancreatic cell damage and inflammation [6].

Other causes include hypertriglyceridemia (levels above 1,000 mg/dL), possibly due to the toxic effects of free fatty acids. Certain medications such as statins, ACE inhibitors, oral contraceptives, diuretics, antiretroviral drugs, valproic acid, and oral hypoglycemic agents may also induce AP through toxicity or hypersensitivity reactions [7]. Autoimmune pancreatitis (AIP) is a rare form marked by immune-mediated inflammation, fibrosis, and elevated IgG4 levels, often responding well to corticosteroids [8].

AP may also occur as a complication of Endoscopic Retrograde Cholangiopancreatography (ERCP), with a reported incidence of 5–10% due to mechanical or

chemical injury [9]. Infections such as *Mycoplasma pneumoniae*, cytomegalovirus, coxsackievirus, and mumps have also been associated with AP, possibly through viral or immune mechanisms [10]. Additionally, trauma, surgical procedures, and metabolic conditions like hypercalcemia can contribute to pancreatic inflammation [11]. The pathogenesis of AP involves premature activation of digestive enzymes within the pancreas, leading to autodigestion, inflammation, edema, necrosis, and hemorrhage. This inflammatory process may extend to surrounding tissues and organs, potentially resulting in systemic inflammation and multi-organ failure [12]. Chronic pancreatitis (CP) is characterized by persistent inflammation leading to fibrosis and irreversible structural damage. This results in progressive loss of both exocrine and endocrine functions. Its development involves complex interactions among genetic, environmental, and immune factors, leading to ductal obstruction and cellular damage [13]. CP often follows repeated episodes of acute pancreatitis and significantly impairs digestion and metabolism [14]. Assessing quality of life (QoL) is essential in gastrointestinal diseases, as many conditions are chronic and recurrent. Even when not life-threatening, they can significantly affect patients through symptoms, psychological stress, social

stigma, dietary restrictions, and concerns about disease progression [15].

The Short Form Health Surveys (SF-36 and SF-12) are widely used tools for evaluating health-related quality of life (HRQoL). The SF-36 includes 36 items across eight domains: Physical Functioning, Role Limitations due to Physical Health, Bodily Pain, General Health, Vitality, Social Functioning, Role Limitations due to Emotional Problems, and Mental Health. Each domain is scored from 0–100, with higher scores indicating better health [16][17].

The SF-12 is a shorter version consisting of 12 items that assess Physical Component Summary (PCS) and Mental Component Summary (MCS) scores. Although it does not provide domain-specific scores, it offers a reliable and less burdensome alternative. Both tools serve as benchmarks for understanding the impact of gastrointestinal diseases and support evidence-based clinical practice [16].

MATERIALS AND METHODS

An observational study was conducted over 6 months at PNR gut and liver clinic, Hanamkonda. A total of 63 patients were taken into consideration after careful considerations of eligibility criteria. Data was collected and analyzed from patients and caregivers who visited the gastroenterology department.

Inclusion criteria:

- Patients of either sex aged >10-80years
- Patients who were visiting gastroenterology department.
- Patients who are willing to respond to questionnaire.

Exclusion criteria:

- Patients aged less than 10 years
- Those who are not willing to participate in study.

- Participants who are not willing to provide required information.

Ethical consideration

This study was approved by the Institutional Ethics committee of study hospital

Statistical Analysis

RESULTS

A total of 63 patients were included in the study after taking consideration of inclusion criteria.

Table 1

GENDER	%
MALE	82.5%
FEMALE	17.5%

Table 2

Age	%
<30	14.2%
31-40	38.0%
41-50	30.1%
51-60	15.8%
>60	1.5%
Residence	%
RURAL	36.5%
URBAN	63.5%

Table 3

EDUCATION	%
PRIMARY	9.5%
SECONDARY	46.1%
TERTIARY	28.6%
ILLITERATES	15.8%

Table 4

EMPLOYMENT	%
WORKING	76.1%
NON WORKING	23.9%

Table 5

DIETARY HABITS	%
NON VEGETERIANS	93.6%
VEGETERIANS	6.3%

Table 6

MARITAL STATUS	%
MARRIED	87.3%
UNMARRIED	12.7%

Table 7

SOCIAL HISTORY	%
SMOKING	28.6%
ALCOHOL	53.9%
NONE	17.5%

Table 8

DIAGNOSIS	%
ACUTE PANCREATITIS	66.6
CHRONIC PANCREATITIS	33.4

Mean scores of QOL in acute and chronic pancreatitis

Table 9

Domains	Mean scores	
	Acute pancreatitis	Chronic pancreatitis
Physical functioning (PF)	63.1	35.7
Role limitations due to physical health (RP)	59.4	18.6
Bodily Pain (BP)	51.2	16.4
General health (GH)	36.8	15.4
Vitality (VT)	49.5	22.3
Social functioning (SF)	60.6	18.0
Role of limitations due to emotional problems (RE)	58.6	22.2
Mental health (MH)	64.9	29.1

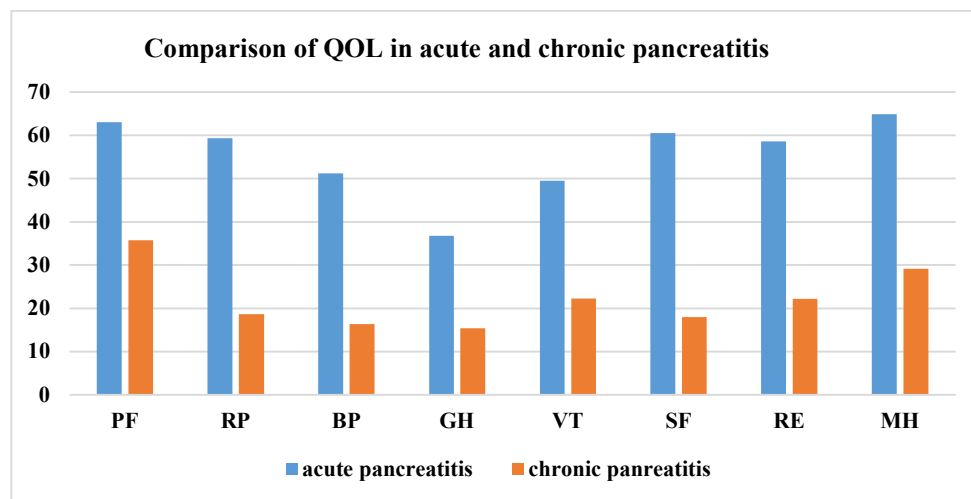


Figure 1

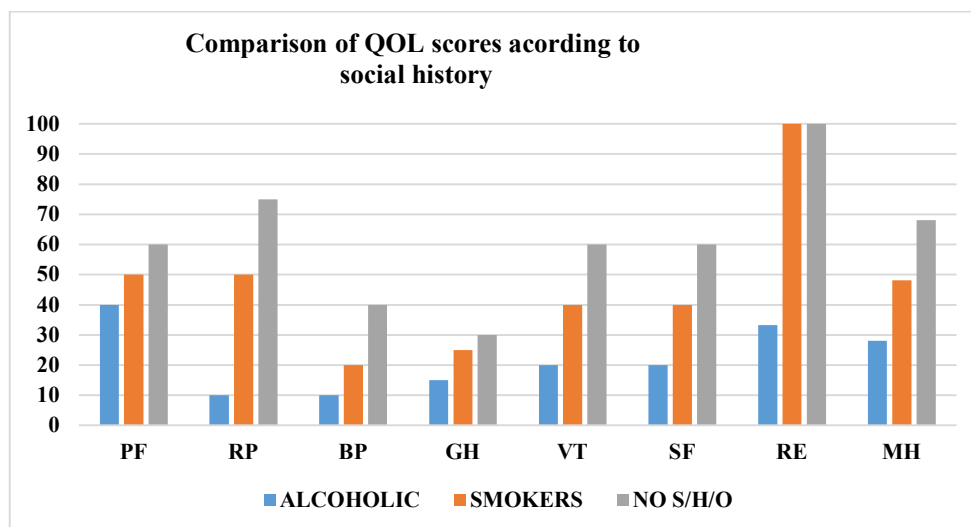


Figure 2

DISCUSSION

In the current study, data from total of 84 cases were collected from the gastroenterology department. Based on chief complaints and provisional diagnosis, 63 candidates fulfilled the inclusion criteria and were taken into consideration. 21 cases were excluded from the study due to incomplete information and failure to meet the study protocol requirements. Out of 63 patients included in the study, 52 (82.5%) were males and 11 (17.5%) were females. The higher prevalence of pancreatitis among males observed in the present study may be attributed to lifestyle factors such as alcohol consumption and smoking, which are more commonly reported among men and are well-established risk factors for pancreatic inflammation. Similar findings were reported in previous studies where a higher incidence of pancreatitis among males was observed due to these risk factors [18].

With regard to age distribution, the majority of patients were in the 31–40 years age group (38.0%), followed by 41–50 years (30.1%). These findings indicate that pancreatitis predominantly affects individuals in the middle-age group. Previous studies have also reported that pancreatitis commonly occurs in adults due to increased exposure to alcohol consumption, metabolic disturbances, and dietary habits during these years [19].

In terms of residence, the majority of patients belonged to urban areas (63.5%) compared to rural areas (36.5%). Urban lifestyle factors such as sedentary habits, consumption of high-fat diets, and increased alcohol intake may contribute to the higher prevalence of pancreatic disorders among urban populations. Similar results were reported in earlier studies conducted in different populations [20].

Regarding educational status, most patients had secondary level education (46.1%), followed by tertiary education (28.6%), while 15.8% were illiterate. Similar studies have reported comparable educational distributions among patients with pancreatic disorders [21]. Educational level may influence awareness about disease conditions, lifestyle modifications, and health-seeking behaviour among patients.

Employment status analysis revealed that the majority of the patients were working (76.1%), whereas 23.9% were non-working. Since pancreatitis commonly affects individuals in the productive age group, the disease may have a considerable impact on daily productivity, work performance, and social functioning. Similar observations have been noted in previous research studies [22].

Dietary habits analysis revealed that the majority of patients were non-vegetarians (93.6%) compared to vegetarians (6.3%). Diets rich in fats and unhealthy dietary

patterns have been associated with metabolic disturbances and pancreatic disorders. Similar associations between dietary patterns and pancreatitis were reported in earlier studies [23].

In the present study, the majority of patients were married (87.3%), while only 12.7% were unmarried. This may be because pancreatitis commonly affects individuals in the middle-age group, where most people are married. Marital status may also influence health-seeking behavior and social support among patients. Previous studies have also reported that pancreatitis commonly occurs in married patients [24].

Analysis of social history revealed that 53.9% of patients had a history of alcohol consumption, 28.6% were smokers, and 17.5% had no such habits. Alcohol consumption is one of the most important etiological factors associated with both acute and chronic pancreatitis. Similar findings were reported in previous studies highlighting alcohol as a major risk factor for pancreatic inflammation [25]. Chronic alcohol exposure leads to pancreatic acinar cell injury, oxidative stress, and inflammatory responses within the pancreas, contributing to disease progression [26].

Regarding past disease history, 17.4% of patients had hypertension and 12.6% had diabetes mellitus. The presence of comorbid conditions such as diabetes and hypertension may further increase disease

burden and negatively affect the overall health status and quality of life of patients suffering from pancreatitis. Similar observations were reported in previous studies assessing comorbidities among pancreatitis patients [27].

In the present study, acute pancreatitis accounted for the majority of cases (66.6%) compared to chronic pancreatitis (33.4%). Similar findings were reported in earlier studies where acute pancreatitis constituted a larger proportion of clinically diagnosed cases [28]. Acute pancreatitis usually presents with sudden onset of severe abdominal pain, nausea, and vomiting, which prompts patients to seek medical attention immediately, thereby increasing its detection in clinical settings [29].

The patients' health-related quality of life (HRQoL) was measured using the SF-36 questionnaire, which evaluates eight domains: physical functioning, role limitations due to physical health, bodily pain, general health, vitality, social functioning, role limitations due to emotional problems, and mental health. In the present study, patients with acute pancreatitis showed relatively higher mean scores in physical functioning (63.1), social functioning (60.6), mental health (64.9), and role limitation due to physical health (59.4). Similar results were reported in previous studies where patients with acute pancreatitis showed relatively better

HRQoL scores after treatment and supportive care [30].

However, lower scores were observed in general health (36.8) and vitality (49.5), indicating that patients may still experience fatigue, weakness, and reduced perception of overall health during the recovery phase of the disease.

In contrast, patients with chronic pancreatitis demonstrated significantly lower scores in most HRQoL domains, including physical functioning (35.7), vitality (22.3), role limitation due to physical health (18.6), bodily pain (16.4), and general health (15.4). These findings indicate that chronic pancreatitis has a profound negative impact on patients' physical health due to persistent inflammation, pancreatic fibrosis, malabsorption, and chronic abdominal pain. Similar findings have been reported in previous studies evaluating HRQoL among chronic pancreatitis patients [31].

Similarly, mental and social domains such as vitality (22.3), social functioning (18.0), role limitations due to emotional problems (22.2), and mental health (29.1) were also markedly reduced in patients with chronic pancreatitis. Previous studies have also reported that chronic disease progression, recurrent hospitalizations, dietary restrictions, and fear of complications contribute to psychological distress and

decreased social interaction among these patients.

Overall, the findings of the present study demonstrate that pancreatitis significantly affects both physical and psychological aspects of health-related quality of life, particularly in patients with chronic disease. Similar findings were reported in previous studies where severe and constant pain are major drivers for poor psychological and physical health in chronic pancreatitis patients [32].

CONCLUSION

The present study evaluated the health-related quality of life in patients with acute and chronic pancreatitis using the SF-36 questionnaire. The results demonstrated that pancreatitis significantly affects patients' overall well-being, particularly in individuals with chronic pancreatitis. While patients with acute pancreatitis showed comparatively better quality-of-life scores following treatment and recovery, those with chronic pancreatitis experienced markedly reduced scores across most physical, social, and mental health domains. Further large-scale studies are recommended to better understand the long-term impact of pancreatitis and to develop effective strategies for improving patient well-being.

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