

# Assessment of Effect of Comorbidities on Quality of Life of Pancreatitis Patients Using SF36V1

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## ABSTRACT

**Introduction:** Painful inflammation of the pancreas in the upper abdomen is a common risk factor for acute pancreatitis, affecting individuals of all ages, especially newborns. Risk factors include alcohol consumption, gallstones, obesity, and dietary habits. **Materials and Methods:** The cross-sectional observational study was conducted for 6 months and the effect of complications in Acute Pancreatitis Patients was assessed by using SF-36 V1 scale. **Results:** A cross-sectional observational study in Khammam found that alcoholic pancreatitis patients experience functional impairment due to factors like dietary habits and cholelithiasis. The incidence of acute pancreatitis increased due to obesity and gallstones. **Conclusion:** According to our study the pancreatitis patients experienced more impairment of their Physical and social functioning in order to improve the health they should avoid social habits and improve the quality of life.

**Keywords:** Acute Pancreatitis, Alcohol consumption, Pathophysiology, Comorbidities, SF36V1, Quality of life.

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## INTRODUCTION

Pancreatitis is a condition characterized by painful inflammation of the pancreas in the upper abdomen; it can be acute or chronic. The pancreas is an organ of the endocrine system and the digestive system by nature. The endocrine pancreas secretes the hormone insulin, which aids in controlling and regulating blood sugar levels, whereas the exocrine pancreas generates digestive enzymes. Recent research on the pathophysiology of pancreatitis indicates that the pancreas does not heal following potential morphological changes, which impair function and reduces quality of life.<sup>[1,2]</sup>

Men are more susceptible to acquire alcohol-related pancreatitis, while women are more likely to develop it as a result of gallstones. Pancreatitis is a condition that can affect people of any age, especially new-borns.

The signs and symptoms of acute pancreatitis typically begin with mild to severe discomfort in the upper abdomen that might come on gradually or suddenly. Inflammation can range from small oedema to severe haemorrhagic necrosis, and it can sometimes migrate to the back. AP incidence increased due to its rate of

obesity and gallstones. AP relates to inflammation of pancreas with enzyme auto-digestion. The latest research on pathology of AP give suggestion that gland does not recover completely after severe AP as it will change morphology of pancreas AP diminishing its function, which further impact QOL of patient.<sup>[3]</sup>

## MATERIALS AND METHODS

The cross-sectional observational study was conducted for 6 months in Mamatha general hospital, Khammam. The sample was selected by taking confidence interval of 5% and a confidence level of 95%. The sample size of our study was 210 Patients. Data was collected by using specially designed data collection form. The Effect of complications in Acute Pancreatitis Patients was assessed by using SF-36 V1 scale. The protocol was reviewed and approved by Institutional Ethics Committee (IEC) before the commencement of study.

The statistical analysis will be carried out by using Microsoft office (MS word, MS Excel, and Graphpad Prism software). A student *t*-test was used for data analysis based on observations of random set of variables.

## RESULTS

The sum of 210 cases encountered was comprised in this research. Aspects like Age, gender, family history, co-morbidities, risk factors; disease state was measured using short-form 36 versions 1 scale.



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## Age

Age as a variable, we have categorized the age into 3 groups and contains the age group of 20-40, 41-60, and 61-80. Among 210 cases 110 (52.3%) patients had ages between 20-40, 71 (33.8%) patients had ages between 41-60, and 29 (13.8%) patients had ages between 61-80 and the outcomes are described in following Table 1.

## Gender

Gender as a factor, among 210 cases of pancreatic patients, 173 (82.3%) cases is males and 37(17.6%) cases are females. The gender distribution in patients was stated in the below Table 2.

## Risk factors

Alcoholic consumption is reported as a major risk factor. Among 210 pancreatic patients about 76% (124) are alcoholic and all the remaining factors are noted below 15% and the outcomes are described in following Table 3.

## Co-morbidities

A total of 210 patients suffered from various co-morbidities. Among those 63 (23.5%) have no co-morbidities, 58 (21.7%) with hypertension, 59 (22%) with diabetes,, 4 (1.4%) with renal calculi, 6 (2.2%) with CKD, 1 (0.3%) with hypotension, 3 (1.1%) with anemia, 6 (2.2%) with alcoholic liver disease, 5 (1.8%) with sepsis, 4 (1.4%) with hepatitis, 16 (5.9%) with acute kidney injury, 3 (1.1%) with type-2 diabetes, 3 (1.1%) with chronic liver disease, 1 (0.3%) with renal failure, 2 (0.7%) with jaundice, 2 (0.7%) with asthma, 4 (1.4%) with denovo-diabetes, 1 (0.3%) thrombocytopenia, 1 (0.3%) with pneumonitis, 1 (0.3%) with grade-1 varices, 6 (2.2%) with thyroid, 1 (0.3%) with gastritis, 1 (0.3%) with epilepsy, 2 (0.7%) with URTI, 3 (1.1%) WITH COPD, 1 (0.3%) with gall stones, 2 (0.7%) with gout, 2 (0.7%) with migraine, 2 (0.7%) with UTI, and 3 (1.1%) with TB. and the outcomes are described in Table 4.

## Residence

Among 210 pancreatic patients, about 74.76% (157) are urban living and the remaining 25.23% are rural living and which is described in following Figure 1.

## Correlation between age and Domains of SF-36 scale

If we compare the different age groups of the people in our study, we found that the age group between 20-40 having good Physical functioning, emotional problems, emotional wellbeing, and energy/fatigue compared to other two age groups, whereas physical health, social functioning, pain and general health are found better in age group 41-60 compare remaining two age

groups. In age group 61-80 all the domains are more effected, and its correlation is described in Table 5.

## Correlation between Gender and Domains of SF-36 scale

In this the males having a good physical functioning compared to females. And they were having similar average scores of fatigues, and all the other factors are comparatively similar with each other. Emotional well-being and social functioning and pain are equally affected in the both the genders, and its correlation is described in Table 6.

## Correlation between Risk factors and Domains of SF-36 scale

People without risk factors have all better domains of the scale except emotional wellbeing which is similarly affected in all the people with and without risk factors, but in people without risk factors their general health is little more affected and its correlation is described in Table 7.

## Correlation between comorbidities and Domains of SF-36 scale

The people without co morbidities have some better physical functioning, Energy, emotional wellbeing and general health compared with people with comorbidities, but their physical health, emotional problems, social functioning and pain are more affected, and its correlation is described in Table 8.

**Table 1: Age Distribution in Patients.**

Age	Number	%
20-40	110	52.38
41-60	71	33.80
61-80	29	13.80
Total	210	100%

**Table 2: Gender Distribution in patients.**

Gender	Number	%
Male	173	82.38
Female	37	17.61
Total	210	100%

**Table 3: Risk factors in patients.**

Factors	Number	%
Alcoholic	124	76.07362
Smoking	24	14.72393
Tobacco chewing	11	6.748466
Obese	4	2.453988
Total	163	100

**Table 4: Co-Morbidities in patients.**

Co- morbidities	Number	%
HTN	58	21.72
DM	59	22.09
Renal calculi	4	1.49
CKD	6	2.24
Hypotension	1	0.37
Anemia	3	1.12
ALD	6	2.24
Sepsis	5	1.87
Hepatitis	4	1.49
AKI	16	5.99
DM-II	3	1.12
CLD	3	1.12
Renal failure	1	0.37
Jaundice	2	0.74
Asthma	2	0.74
Denovo DM	4	1.49
Thrombocytopenia	1	0.37
Pneumonitis	1	0.37
Grade-I varices	1	0.37
Thyroid	6	2.24
Gastritis	1	0.37
Epilepsy	1	0.37
URTI	2	0.74
COPD	3	1.12
Gall stones	1	0.37
Gout	2	0.74
Migraine	2	0.74
UTI	2	0.74
TB	3	1.12
No co-morbidities	63	23.59
Total	267	100%

### Correlation between Residence and Domains of SF-36 scale

If we compare the quality of life based on residence of people the rural area people having good physical functioning and energy/fatigue conditions where as physical health, emotional problems, emotional wellbeing and pain is more affected to the rural people compare with urban people and the remaining social functioning and general health are equally affected in both urban and rural people and its correlation is described in Table 9.

### DISCUSSION

The main aim of this research is to assess the long-term health related quality of life and to determine the impact of habits like drinking alcohol, smoking and some of the food habits that leads to pancreatitis. Using a standardized questionnaire with several scores depending on various parameters like physical functioning, physical health, emotional problems, energy/fatigue, emotional well-being, social functioning, pain, general health and considering age, gender, co-morbidities, etc.

Considering Age as a factor, in the age group of 20-40 52.8%, were prone to disease. In the age between 41-60 about 33.8% and

between the age group of 61-80 there were about 13.8% patients were prone to pancreatitis. According to our study results middle aged people were more prone to disease based on the aetiology/cause of the disease and similar age group also reported by study of Jin Myung Park *et al.*,<sup>[4]</sup>

Different studies on sex related pancreatitis are reported that male population is more prone to Pancreatitis.<sup>[5]</sup> In our study Out of 210 pancreatitis' patients in our research, males having the 82.3% (173) mostly occurred due to unusual habits like alcohol consumption and smoking. And female percentage is about 17.6% that is 37 of 210 pancreatic patients. Our study involved different disease conditions like acute, chronic/severe pancreatitis and few of them diagnosed as recurrent pancreatitis.

Among 210 patients 23.5% have no co-morbidities and compared to all other diseases hypertension and diabetes having the percentage of 21.7% and 22.09% respectively. We analysed the quality of life using the SF-36 version 1 scale as it is composed of eight domains of different categories. The investigation concluded that 72.7% affecting physical functioning, Emotional well-being 64.2% and social functioning about 64.8%.

By considering the previous studies on pancreatic disease condition, the study stated that pancreatic functional impairment is common in patients who have recovered from a single episode of acute pancreatitis. Patients with alcoholic origin of pancreatitis are seen frequently in this study. There were patients suffering with non-alcoholic pancreatic disease due to several factors like food habits and cholelithiasis (gall stones). And some cases are noted with acute or chronic pancreatitis due to the lack of follow up and no proper improvement of quality of life in the patients who attacked with single episode of acute pancreatitis.

The risk of pancreatitis increases significantly as individuals age due to various age-related factors like decreased enzyme production and scar tissue build up which leads to fibrosis formation described by autopsy study of Detlefsenet *al.*,<sup>[6]</sup> and Obesity, overweight/obesity, high Body Mass Index (BMI), hypercholesterolemia, type 2 diabetes, arterial hypertension,

metabolic syndrome, and severe atherosclerosis, alcohol consumption, and smoking, which can harm the pancreas in aged people.<sup>[7-9]</sup> Additionally, the weakened immune function in aging individuals makes them more susceptible to inflammatory diseases, including pancreatitis. Chronic pancreatitis, characterized by repeated inflammation, is more prevalent in older adults, particularly in the 40-60 and 61-80 age groups. Similarly in our study also the domains of SF-36 scale are affected in the age group 40-60and 61-80 compared to age group.<sup>[10,11]</sup>

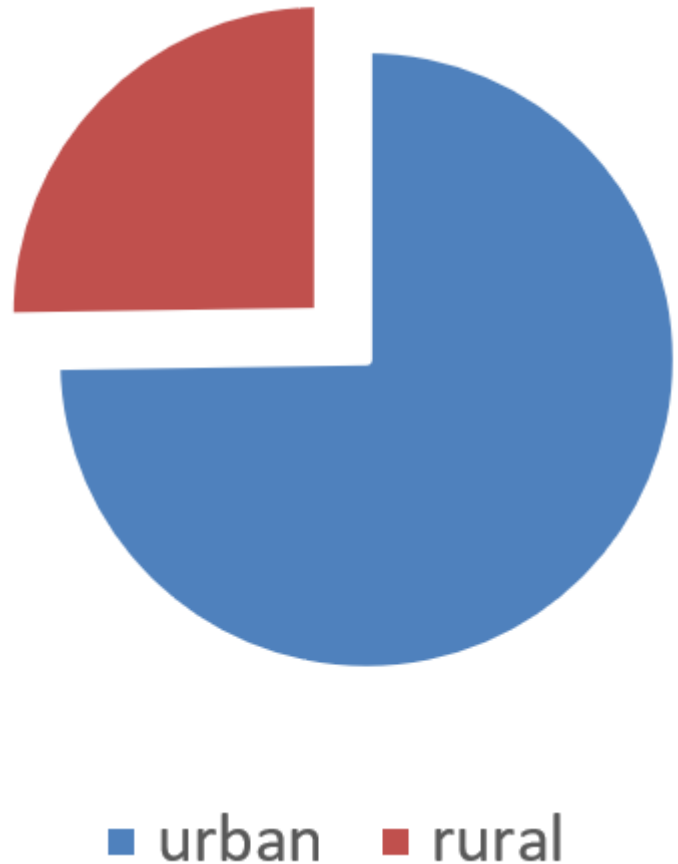


Figure 1: Residence of patient.

Table 5: Correlation between age and domains SF-36 Scale.

	Age			p-Value	Significance
	20-40	41-60	61-80		
Total	110	71	29	<0.0001	Yes
Physical functioning	74.95	72.88	64.31		
Physical health	45	50	46.55		
Emotional problems	55.41	54.88	52.83		
Energy/Fatigue	52	49.36	50.17		
Emotional well being	64.94	63.54	63.31		
Social functioning	65.56	66.02	63.79		
Pain	59.31	64.33	56.12		
General health	49.04	51.89	47.51		

**Table 6: Correlation between Gender and SF-36 Scale domains**

Gender				
	Male	Female	p-Value	Significance
Total	173	37	0.0001	Yes
Physical functioning	74.79	63.37		
Physical health	47.10	45.94		
Emotional problems	55.25	53.11		
Energy/Fatigue	50.95	50.40		
Emotional well being	64.02	65.29		
Social functioning	65.82	63.85		
Pain	61.21	57.56		
General health	50.77	45.22		

**Table 7: Correlation between Risk factors and SF-36 Scale domains.**

Risk factors				
	Present	Absent	p-Value	Significance
Total	159	51	<0.0001	Yes
Physical functioning	72.38	74.01		
Physical health	46.69	47.54		
Emotional problems	55.09	54.2		
Energy/Fatigue	50.03	53.43		
Emotional well being	64.12	64.62		
Social functioning	65.25	66.17		
Pain	60.31	61.37		
General health	50.05	48.97		

**Table 8: Correlation between Comorbidities and SF-36 Scale domains.**

Comorbidities				
	Present	Absent	p-Value	Significance
Total	147	63	<0.0001	Yes
Physical functioning	72.34	73.80		
Physical health	48.12	44.04		
Emotional problems	55.51	53.39		
Energy/Fatigue	50.20	52.38		
Emotional well being	63.89	65.07		
Social functioning	66.07	64.08		
Pain	61.37	58.69		
General health	49.63	50.15		

Pancreatitis, an inflammation of the pancreas, exhibits gender-related differences in prevalence, risk factors, and outcomes. Men are more commonly affected by pancreatitis, especially acute pancreatitis, where they are twice as likely as women to develop the condition. Certain risk factors, such as heavy alcohol consumption, smoking, and obesity, are more prevalent in men, contributing to their higher susceptibility. In our study also more male people are affected with pancreatitis

even if male is more prevalence of the disease but male having better quality of life than females as we found in our study.

The correlation between the presence or absence of risk factors and pancreatitis involves understanding the relationship between specific factors and the development of inflammation in the pancreas. Recognizing these correlations is crucial for assessing individual risk levels and implementing preventive measures. Key risk factors for pancreatitis include chronic alcohol abuse,

**Table 9: Correlation between Residence and SF-36 Scale domains.**

	Residence		p-Value	Significance
	Urban	Rural		
Total	157	53	0.0053	Yes
Physical functioning	71.65	76.13		
Physical health	48.08	43.39		
Emotional problems	57.48	47.13		
Energy/Fatigue	49.90	53.67		
Emotional well being	64.43	63.69		
Social functioning	65.52	65.33		
Pain	61.99	56.36		
General health	49.90	49.47		

gallstones, obesity, smoking, diabetes, Tobacco chewing, certain medications, and a family history of the condition. Chronic and heavy alcohol consumption directly damages the pancreas, while gallstones can obstruct the pancreatic duct, leading to inflammation. Obesity is associated with an increased risk due to its contribution to inflammation and impaired pancreatic function. Smoking, diabetes, certain medications, and family history also elevate the risk of pancreatitis. In our study the presence of risk factors has equally affected physical functioning and pain and remaining all the domains of SF-36 scale are significantly decreased compare to people absence of risk factors.<sup>[12]</sup>

Individuals with certain comorbidities have an increased risk of developing pancreatitis and those are also affecting their quality of life. In our study Physical health, Emotional problems, Energy/Fatigue and social functioning are more effected compared to other domains of scale. Factors like diet, lifestyle, and healthcare access, which vary between urban and rural environments, could contribute to the risk of pancreatitis in our study. More urban people are affected with the disease and their quality of life is also severely affected compare to rural patients.<sup>[13]</sup>

## CONCLUSION

Those who have recovered from a single acute pancreatitis episode are more likely to experience pancreas functional impairment. This study includes many patients with pancreatitis of alcoholic origin. Certain dietary habits and cholelithiasis (gall stones) were among the factors contributing to the non-alcoholic pancreatic illness suffered by some patients. Acute or chronic pancreatitis has also been reported in certain cases because of inadequate follow-up and inadequate improvement of quality of life in individuals who had an acute pancreatitis episode. After making this discovery, we concluded that to lessen the effects of pancreatitis and prevent future complications, the quality of life of the patient must be improved.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## ABBREVIATIONS

**AP:** Acute Pancreatitis; **HRQOL:** Health Related quality of Life  
**CP:** Chronic Pancreatitis; **NAFPD:** Nonalcoholic fatty pancreatic disease; **SF-36:** Short form Survey-36.

## SUMMARY

The main aim of this research is to assess the long-term health related quality of life in Pancreatitis Patients Using a standardized questionnaire form with several scores depending on various parameters, in those Parameters both urban and rural people has very significant effected their physical functioning and social functioning. In order to reduce these effects their must be improve their quality of life.

## REFERENCES

- Gupta R, Wig JD, Bhasin DK, Singh P, Suri S, Kang M, et al. Severe acute pancreatitis: the life after. *J Gastrointest Surg.* 2009; 13: 1328-36. <https://pubmed.ncbi.nlm.nih.gov/19415400/>
- Yasuda T, Ueda T, Takeyama Y, Shinzeki M, Sawa H, Nakajima T, et al. Long-term outcome of severe acute pancreatitis. *J Hepatobiliary Pancreat Surg.* 2008; 15: 397-402. <https://link.springer.com/article/10.1007/s00534-007-1266-x>
- Ashraf H, Colombo JP, Marcucci V, Rhoton J, Olowoyo O. A Clinical Overview of Acute and Chronic Pancreatitis: The Medical and Surgical Management. *Cureus.* 2021; 13(11): e19764. doi:10.7759/cureus.19764. <https://pubmed.ncbi.nlm.nih.gov/34938639/>
- Jin Myung Park, Namyong Park, Sang Hyub Lee, Kyung Do Han, Chang Don Kang, Jae Min Lee, et al. A population-based cohort study on risk factors for acute pancreatitis: A comparison by age group. *Pancreatology.* 2023; 23(3): 321-9, ISSN 1424-3903, <https://doi.org/10.1016/j.pan.2023.03.004>. <https://pubmed.ncbi.nlm.nih.gov/36964006/>
- Drake M, Dodwad SJ, Davis J, Kao LS, Cao Y, Ko TC. Sex-Related Differences of Acute and Chronic Pancreatitis in Adults. *J Clin Med.* 2021; 10(2): 300. doi: 10.3390/jcm1020300. PMID: 33467580; PMCID: PMC7830423. <https://pubmed.ncbi.nlm.nih.gov/3467580/>

6. Detlefsen S, Sipos B, Feyerabend B, *et al.* Pancreatic fibrosis associated with age and ductal papillary hyperplasia. *VirchowsArch*. 2005;447: 80 <https://portal.fis.tum.de/en/publications/pancreatic-fibrosis-associated-with-age-and-ductal-papillary-hype>
7. Papelbaum M, Lemos HM, Duchesne M, Kupfer R, Moreira RO, Coutinho WF. The association between quality of life, depressive symptoms and glycemic control in a group of type 2 diabetes patients. *Diabetes Research and Clinical Practice*. 2010; 89: 227230. <https://pubmed.ncbi.nlm.nih.gov/20696361/>
8. Barnes D F, Yaffe K, Satariano W A, *et al.* A longitudinal study of cardiorespiratory fitness and cognitive function in healthy older adults. *Journal of the American Geriatrics society*, 2003; 51(26): 459-65. [https://www.researchgate.net/publication/7838441\\_A\\_Longitudinal\\_Study\\_of\\_Cardiorespiratory\\_Fitness\\_and\\_Cognitive\\_Fun](https://www.researchgate.net/publication/7838441_A_Longitudinal_Study_of_Cardiorespiratory_Fitness_and_Cognitive_Fun)ction\_in\_Healthy\_Older\_Adults
9. Dominguez-Munoz, J. E., Carballo, F., Garcia, M. J., DE Diego, J. M., Rabago, L., Simon, M. A. *et al.* Clinical usefulness of polymorphonuclearelastase in predicting the severity of acute pancreatitis: results of a multicentre study. *Br J Surg*, 1991; 78: 1230-4. <https://pubmed.ncbi.nlm.nih.gov/1958993/>
10. Zhang, X. P., Zhang, L., Yang, P., Zhang, R. P. and Cheng, Q. H. Protective effects of baicalin and octreotide on multiple organ injury in severe acute pancreatitis. *Dig Dis Sci*, 2008; 53: 581-91. <https://pubmed.ncbi.nlm.nih.gov/17549629/>
11. Silverman D, Schiffman M, Everhart J, Goldstein A, Lillemoe K, Swanson G *et al.* Diabetes mellitus, other medical conditions and familial history of cancer as risk factors for pancreatic cancer. *British Journal of Cancer*. 1999; 80(11): 1830-37. <https://www.nature.com/articles/6690607>
12. Yadav, D., and Lowenfels, A. B. The epidemiology of pancreatitis and pancreatic cancer. *Gastroenterology*, 2013; 144(6): 1252-1261. doi:10.1053/j.gastro.2013.01.068 . <https://pubmed.ncbi.nlm.nih.gov/23622135/>
13. Chu QD, Hsieh MC, Gibbs JF, Wu XC. Social determinants of health associated with poor outcome for rural patients following resected pancreatic cancer. *J Gastrointest Oncol*. 2021; 12(6): 2567-78. doi: 10.21037/jgo-20-583. PMID: 35070388; PMCID: PMC8748046. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8748046/>

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