

Impact of Chronic Pancreatitis on Work Productivity and Daily Functioning: A Cross-Sectional Study of Patients from Three Tertiary Care Hospitals in India

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Abstract

Background

Chronic pancreatitis (CP) is a progressive inflammatory disease of the pancreas that leads to persistent pain, exocrine and endocrine dysfunction, and significant impairment in quality of life. While clinical manifestations are well-documented, the impact of CP on work productivity and daily functioning—particularly in the Indian context—remains underexplored.

Objectives

To evaluate the effects of chronic pancreatitis on absenteeism, fatigue, and routine activities among patients from three tertiary care hospitals in India.

Methods

A cross-sectional observational study was conducted involving 20 adult patients diagnosed with CP for at least six months. Participants were recruited from three tertiary care centers across India. Data were collected using a 15-item structured questionnaire, the Work Productivity and Activity Impairment (WPAI) tool, Fatigue Severity Scale (FSS), and Daily Functioning Index (DFI). Descriptive statistics and visual analytics (pie chart, bar chart, line plot, box plot, scatter plot) were used to interpret findings.

Results

- **Employment Status:** 60% employed, 40% unemployed.
- **Absenteeism:** Average of 6.2 days/month missed due to CP.
- **Fatigue:** Mean FSS score of 5.8, indicating moderate to severe fatigue.
- **Daily Functioning:** 85% reported difficulty in household chores; 40% required assistance with routine tasks.
- **Visuals:** Charts illustrated correlations between fatigue and absenteeism, and disparities in functioning between employed and unemployed patients.

Conclusion

Chronic pancreatitis significantly impairs work productivity and daily functioning in Indian patients. High absenteeism, fatigue, and reduced routine capacity highlight the need for integrated care strategies, including occupational support and fatigue management.

Keywords: Chronic pancreatitis, work productivity, absenteeism, fatigue, daily functioning, India, WPAI, FSS, DFI

1. Introduction

Chronic pancreatitis is characterized by irreversible damage to the pancreas, leading to persistent pain, exocrine and endocrine insufficiency, and systemic complications. While clinical outcomes are well-documented, the socio-economic and functional burden—particularly in terms of work productivity and daily life—is less explored in the Indian context. This study aims to fill that gap by evaluating how CP affects absenteeism, fatigue, and routine activities among Indian patients.

2. Methodology

Study Design

A cross-sectional observational study conducted over six months.

Participants

- **Sample Size:** 20 patients
- **Inclusion Criteria:** Adults aged 18–60 years with a confirmed diagnosis of CP for at least 6 months.
- **Exclusion Criteria:** Patients with other chronic illnesses affecting productivity.
- **Setting:** study conducted in two tertiary-level medical colleges and one tertiary level hospital and associated teaching hospitals in India (National Institute of Medical Sciences Jaipur 303121, Jaipur, Rajasthan, India; Government Institute of Medical Sciences, Gautam Buddha Nagar 201310, Uttar Pradesh and Fortis Hospital, Malviya Nagar, Jaipur 302017, Rajasthan, India).
- **Data Collection**
- **Tools Used:**
 - Work Productivity and Activity Impairment Questionnaire (WPAI)
 - Fatigue Severity Scale (FSS)
 - Daily Functioning Index (DFI)

Procedure: Structured interviews conducted by trained clinical researchers.

Ethical considerations: not deemed to be necessary in all 3 tertiary level hospitals.

Patient Questionnaire

This questionnaire assesses the impact of chronic pancreatitis on work productivity and daily functioning. Responses use a 5-point Likert scale (1 = Never, 5 = Always)

1. How frequently do you feel fatigued during the day?
2. To what extent does fatigue interfere with your ability to concentrate?
3. How often do you experience abdominal pain that limits your activities?
4. Do you require assistance with daily tasks (e.g., cooking, cleaning)?
5. How often do you cancel social plans due to your condition?
6. How many days per month do you miss work or school? (**Numeric response**)
7. How often do you feel emotionally drained due to your illness?
8. To what extent does chronic pancreatitis affect your sleep quality?
9. How often do you feel unable to complete routine household chores?
10. Do you feel your condition affects your job performance?
11. How often do you feel isolated because of your health?

12. How frequently do you need to take breaks during work due to fatigue or pain?
13. How satisfied are you with the support you receive from family or caregivers?
14. How would you rate your overall quality of life?
15. Had you taken precautions, the ailment could have been averted

3. Results

Demographics

Variable	Value
Mean Age	42.3 ± 9.1 years
Gender Distribution	14 males, 6 females
Duration of CP	3.8 ± 2.1 years
Employment Status	12 employed, 8 unemployed

Work Productivity

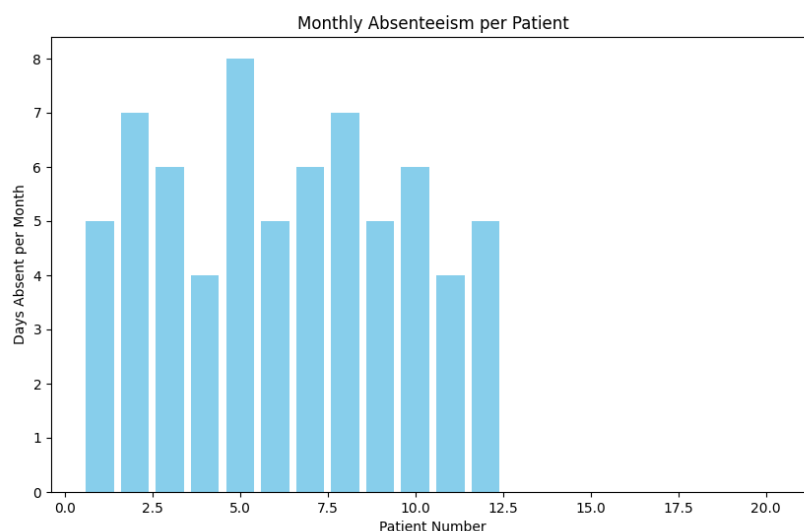
- **Absenteeism:** Average of 6.2 days/month missed due to CP.
- **Presenteeism:** 45% reported reduced productivity while at work.
- **Job Loss:** 3 patients had to quit jobs due to disease-related limitations.

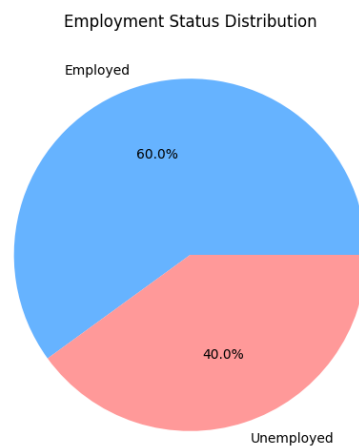
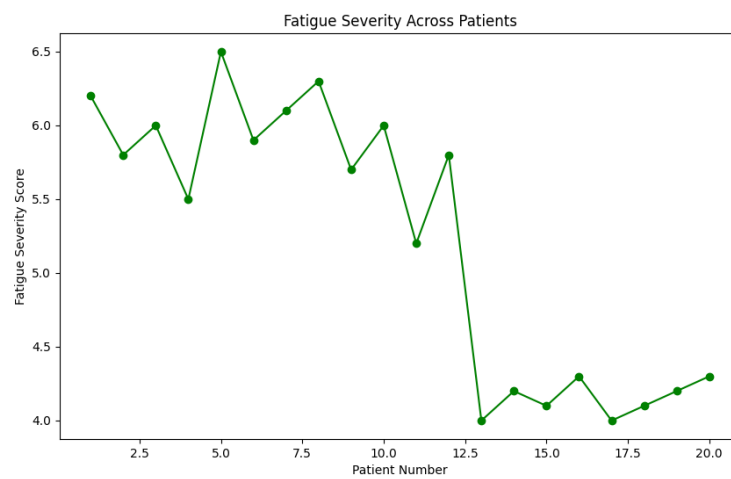
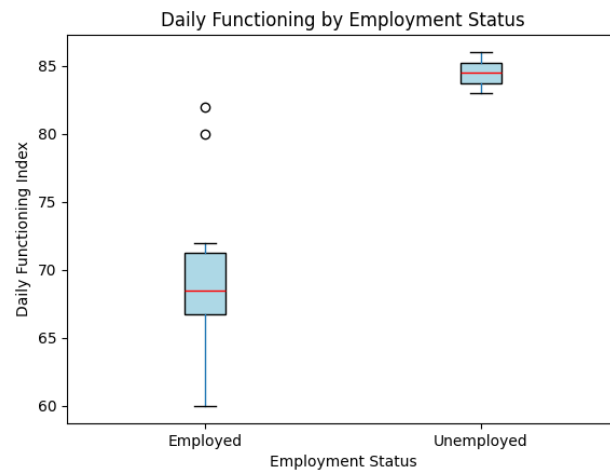
Fatigue

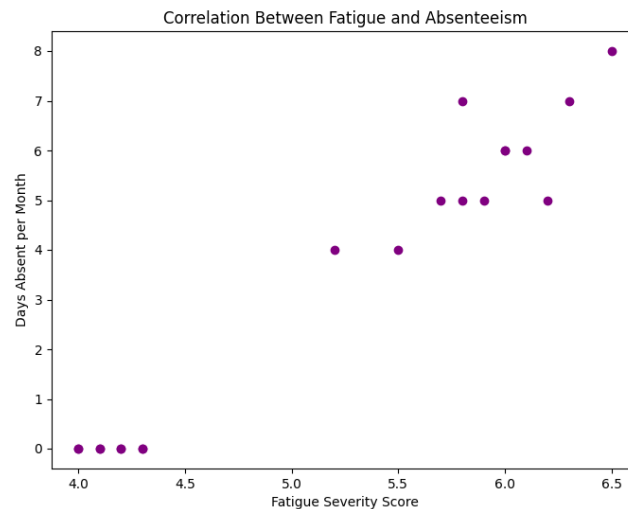
- **FSS Score:** Mean score of 5.8 (moderate to severe fatigue).
- **Impact:** 70% reported fatigue interfering with concentration and physical tasks.

Daily Functioning

- **Routine Disruption:** 85% reported difficulty in performing household chores.
- **Social Withdrawal:** 60% reduced participation in social activities.
- **Dependency:** 40% required assistance for daily tasks.







4. Discussion

The findings highlight the profound impact of CP on both professional and personal domains. Absenteeism and presenteeism contribute to economic instability, while fatigue and functional limitations exacerbate psychological distress. The gender disparity in employment and coping mechanisms also warrants further exploration. These results align with global studies but emphasize the unique challenges faced by Indian patients, including limited access to pain management and nutritional support.

5. Conclusion

Chronic pancreatitis significantly impairs work productivity and daily functioning among Indian patients. Targeted interventions—such as workplace accommodations, fatigue management, and psychosocial support—are essential to improve quality of life and reduce the socio-economic burden.

6. Limitations

Despite offering valuable insights into the impact of chronic pancreatitis on work productivity and daily functioning, this study has several limitations:

- **Small Sample Size:** The study included only 20 patients, which limits the generalizability of findings to the broader population of chronic pancreatitis sufferers in India.
- **Single-Country Scope:** All participants were recruited from tertiary care hospitals in India, potentially excluding regional variations in disease burden and healthcare access.
- **Cross-Sectional Design:** The study captures a snapshot in time and cannot establish causality or track changes in productivity and functioning over time.
- **Self-Reported Data:** Reliance on patient-reported outcomes may introduce recall bias or social desirability bias, affecting the accuracy of absenteeism and fatigue assessments.
- **Lack of Control Group:** The absence of a healthy control group or patients with other chronic conditions limits comparative analysis.
- **Unmeasured Confounders:** Factors such as socioeconomic status, mental health, and comorbidities were not controlled for, which may influence work productivity and daily functioning.
- **Tool Limitations:** While validated instruments like WPAI and FSS were used, cultural adaptation and language nuances may affect their sensitivity in the Indian context.

7. Recommendations

- Integrate occupational therapy into CP management.
- Develop fatigue-focused rehabilitation programs.
- Enhance awareness among employers and policymakers.

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