



Prevalence of Depression in patients with Chronic Pancreatitis: A Systematic Review and Meta-Analysis

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INTRODUCTION

Chronic Pancreatitis (CP) is a fibroinflammatory condition with debilitating symptoms affecting 35-50% of individuals worldwide. Quality of life is severely affected in patient with CP and they are likely to suffer from mental health disorders, including depression. We conducted a systematic review and meta-analysis assessing the prevalence of Depression in patients with CP.

MATERIALS and METHODS

PubMed, MEDLINE (OVID), PsycINFO, Cochrane Library, Embase, Scopus and Web of Science were searched to June 2022 to identify manuscripts reporting the prevalence of Depression (clinically or with a validated scale without language restriction) among patients with Chronic Pancreatitis of any etiology.

Two independent reviewers extracted data. Disagreements were resolved by a third author. The pooled prevalence was calculated using a random effects model. Heterogeneity was assessed by the inconsistency index (I²).

RESULTS

- 3647 articles identified, and ultimately nine studies were included with perfect agreement (kappa=1.0).
- A total of 87136 patients were included in the studies (Table 1).
- CP was determined with previous historical diagnosis, the M-ANNHEIM criteria and the presence of a clinical, radiologic and/or endosonographic features.
- Depression was diagnosed clinically and using Center for Epidemiological Studies 10-item Depression Scale (CESD), Beck Depression Inventory (BDI) and Hospital Anxiety and Depression Scale (HADS).
- The pooled prevalence of Depression in CP patients was 39% (95% CI 0.26-0.53).

DISCUSSION

Depression among patients with CP deserves a call-to-action due to its medical implications and worsening quality of life. Chronic pain and malabsorptive symptoms could predispose to the development of Depression. Our findings raise awareness of the importance of screening patients with chronic pancreatitis for mental health disorders.

Table 1: Characteristics of included subjects

Study	Design	Country	Study Population	Chronic Pancreatitis (N)	Etiology of Chronic Pancreatitis	Diagnosis of Chronic Pancreatitis	Depression (N)	Depression	Controls (N)	Depression in Chronic Pancreatitis (%)	Depression in Controls (%)
Alkhayyat (2021)	Retrospective cohort analysis	USA	Patients with diagnosis of CP	67,260	Any etiology	Previous diagnosis	31477	Clinical	30,209,550	47%	14.70%
Balliet (2012)	Cross-sectional	USA	Patients with nonalcohol-related CP	692	Nonalcohol-related	Previous diagnosis	360	CESD	NA	52%	NA
Chen (2018)	Retrospective cohort	Taiwan	Patients with newly diagnosed CP	17,733	Any etiology	Previous diagnosis	1,898	Clinical	35,466	11%	0.90%
Szalewska (2016)	Cross-sectional	Poland	Patients with CP exacerbation	30	Any etiology	Previous diagnosis	21	Beck Depression Inventory	NA	70%	NA
Olesen (2021)	Cross-sectional	USA and	Patients with diagnosis of CP	184	Any etiology	M-ANNHEIM criteria: (Cambridge III or IV	71	Hospital Anxiety and Depression Scale	NA	39%	NA
Phillips (2020)	Cross-sectional	USA and	Patients with diagnosis of CP	171	Any etiology	M-ANNHEIM criteria: (Cambridge III or IV	66	Hospital Anxiety and Depression Scale	NA	39%	NA
Shah (2022)	Cross-sectional	USA	Patients with CP w and w/o opioid use	442	Any etiology	Clinical, radiologic and/or endosonographic features	145	Clinical	NA	33%	NA
Singh (2021)	Prospective cohort study	India	Patients with Idiopathic CP, with/without diabetes,	66	Idiopathic CP with/without Diabetes	Diagnosis based on United European Gastroenterology Guidelines	19	Hospital Anxiety and Depression Scale	152	29%	1%
Sarkar (2022)	Prospective observational study	India	Patients with documented CP	558	Any etiology	Pancreatic calcifications, ductal and parenchymal changes on EUS, MRCP or CT	261	Beck Depression Inventory II	67	47%	7.50%

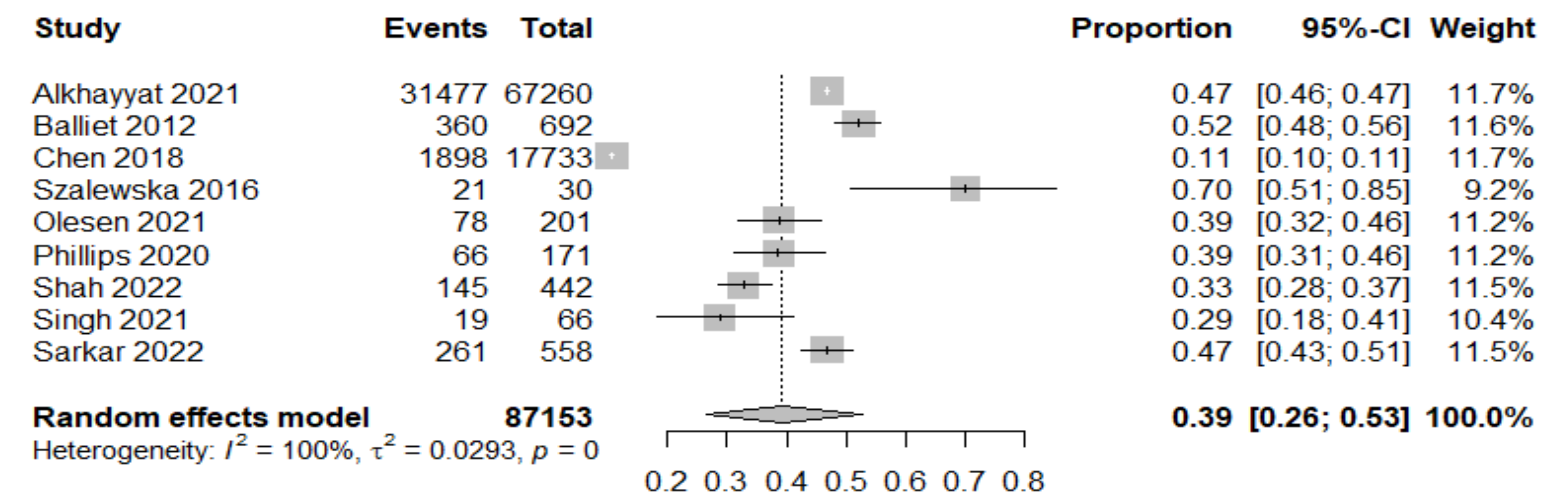


Figure 1: Forest plot of the prevalence of Depression in patients with Chronic Pancreatitis