



ANXIETY AND DEPRESSION ARE STRONGLY ASSOCIATED WITH PANCREATITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Tibor Dániel Fehér^{1,2}, Mahmoud Obeidat¹, Ádám Zolcsák^{1,3}, Renáta Papp^{1,4}, Brigitta Teutsch^{1,5,7}, Marie Engh¹, Réka Csaba¹, Lilla Réthy¹, Péter Hegyi^{1,2,7,8}, Rita Nagy^{1,6}

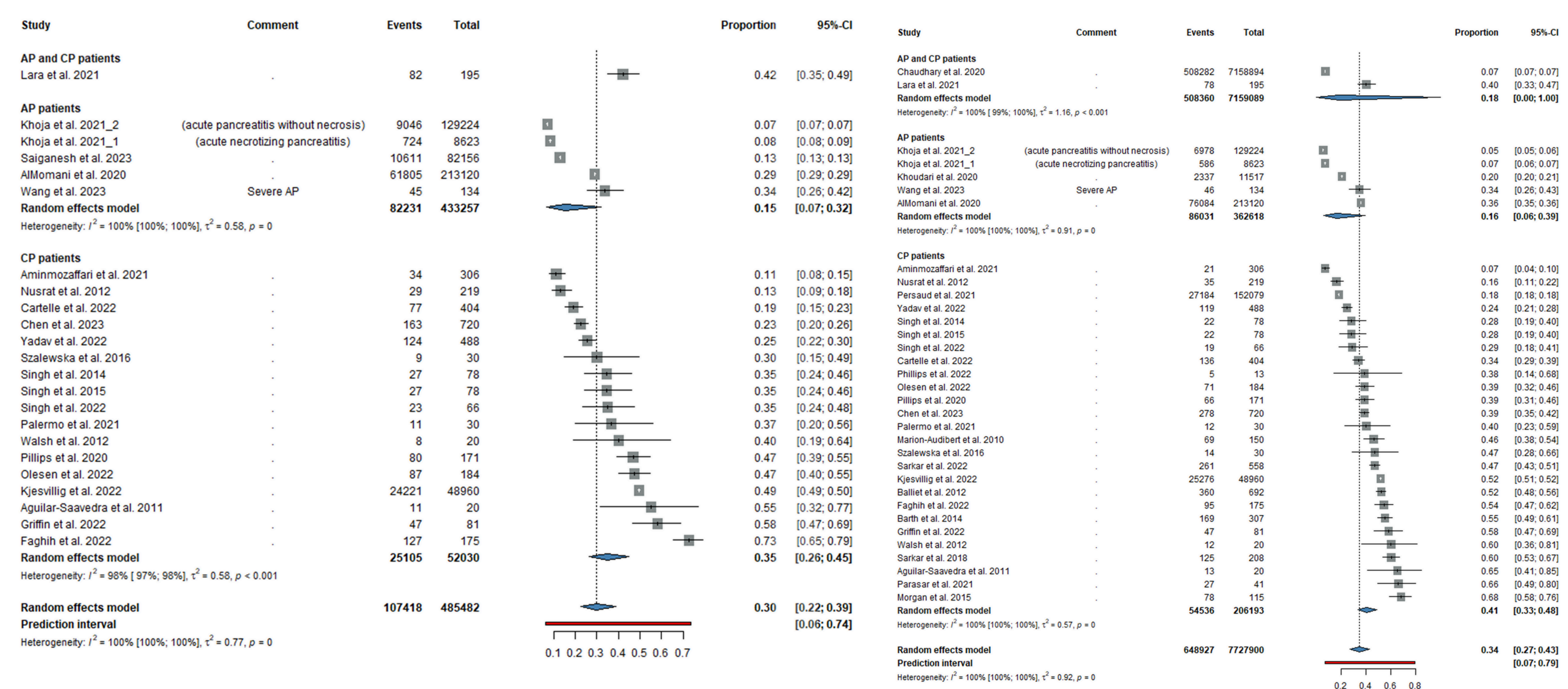
1. Centre for Translational Medicine, Semmelweis University, Budapest, Hungary; 2. Institute of Pancreatic Diseases, Semmelweis University, Budapest, Hungary; 3. Department of Biophysics and Radiation Biology, Semmelweis University, Budapest, Hungary; 4. Centre of Science and Innovations, Semmelweis University, Budapest, Hungary; 5. Department of Radiology, Medical Imaging Centre, Semmelweis University, Budapest, Hungary; 6. Heim Pál National Pediatric Institute, Budapest, Hungary; 7. Institute for Translational Medicine, Medical School, University of Pécs, Pécs, Hungary; 8. Translational Pancreatology Research Group, Interdisciplinary Centre of Excellence for Research Development and Innovation, University of Szeged, Szeged, Hungary

BACKGROUND

The *bidirectional* interplay of the **brain-gut axis** alongside manifestations of anxiety and depression has already been demonstrated. Despite this fact, routine mental health assessments and interventions are not well-established in the treatment of acute (AP) and chronic pancreatitis (CP), potentially worsening clinical outcomes. Our objective is to achieve a comprehensive understanding of the mind-body connection within the context of pancreatitis by assessing the prevalence of depression and anxiety in patients with AP and CP.

METHODS

Our protocol was registered on PROSPERO (CRD42023481739). We conducted a systematic search on 10 November 2023 in three databases (MEDLINE, Embase, and CENTRAL) to identify studies reporting the occurrence of depressive and anxiety-related symptoms in pancreatitis. The pooled proportion rate with 95% confidence intervals (CI) was calculated using a random-effects model.



RESULTS

DEPRESSION

In the depression analysis, more than 7 million patients were included. The pooled proportion of depression in patients with pancreatitis was 0.34 (CI: 0.27 - 0.43). In AP subgroup, the proportion was 0.16 (CI: 0.06 - 0.39), however, in the CP subgroup, it was 0.41 (CI: 0.33 - 0.48).

ANXIETY

In the analysis of anxiety, the studies covered a total of 485,482 patients. The pooled effect size was 0.3 (CI: 0.22 - 0.39). Regarding AP, the proportion was found to be 0.15 (CI: 0.07 - 0.32), in contrast with the chronic pancreatitis subgroup, where the pooled effect size was 0.35 (CI: 0.26 - 0.45).

CONCLUSION

Anxiety and depression are significantly more frequently observed among individuals with pancreatitis compared to the general population. These conditions occur twice as often in CP compared to AP. Thus, we underscore the significance of psychological interventions in this patient population.