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## The potential role of gut microbiota in pancreatic disease: A systematic review

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**Background:** Several studies have suggested a link between microbiota imbalance and some gastrointestinal, inflammatory and neoplastic diseases. However, the role in pancreatic diseases remains unclear. To evaluate the available evidence for pancreatic diseases, we undertook a systematic review.

**Methods:** OVID Medline (1946 to 2017), EMBASE (1980 to 2017) and the Cochrane Central Register of Controlled Trials (CENTRAL Issue 3, 2017) were searched for studies on microbiota in pancreatic disease. We also searched the reference lists of retrieved papers and conference proceedings. We excluded animal studies, reviews, and case reports.

**Results:** A total of 2,833 articles were retrieved. After screening and applying the exclusion criteria, 10 studies were included. Three studies showed lower levels of *Bifidobacterium* or *Lactobacillus* and higher levels of *Enterobacteriaceae* in chronic pancreatitis. Two of these studies were uncontrolled, and the third (controlled) study which compared patients with endocrine and exocrine insufficiency, reported that Bacteroidetes levels were lower in those patients without diabetes, while Bifidobacteria levels were higher in those without exocrine insufficiency. Only one study investigated acute pancreatitis, showing higher levels of Enterococcus and lower levels of *Bifidobacterium* versus healthy participants. There was an overall association between pancreatic cancer and lower levels of *Neisseria elongate*, *Streptococcus mitis* and higher levels of *Porphyromonas gingivalis* and *Granulicatella adiacens*.

**Conclusions:** Current evidence suggests a possible link between microbiota imbalance and pancreatic cancer. Regarding acute and chronic pancreatitis, data are scarce, dysbiosis appears to be present in both conditions. However, further investigation is required to confirm these findings and to explore therapeutic possibilities.

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**Notes:**