

## Heartburn in children and adolescents in the presence of functional dyspepsia and/or irritable bowel syndrome correlates with the presence of sleep disturbances, anxiety, and depression.

Medicine (Baltimore). 2021 Apr 2; 100(13): e25426.

**Background and Objective:** Functional gastrointestinal disorders associated with abdominal pain (FGID-AP) are common disorders in children and adolescents. The two most frequent FGID-APs are functional dyspepsia (FD) and irritable bowel syndrome (IBS). These disorders are multifaceted and involve a complex interplay of biological, psychological, and social factors, and that there is no single effective treatment. The aim of this study was to assess the relationship of heartburn in paediatric patients with functional dyspepsia (FD) and irritable bowel syndrome (IBS) with gastrointestinal symptoms, sleep disturbances, and psychologic distress.

**Methods:** A cross-sectional retrospective review of 260 consecutive patients, 8 to 17 years of age, with a primary complaint of abdominal pain occurring at least once weekly for a minimum of 8 weeks. They were evaluated based on clinical history, sleep quality and quantity, anxiety and depression and UGI endoscopies. Data analysis consisted of Frequency counts obtained for each assessed gastrointestinal and Non gastrointestinal symptom and were compared in patients who reported heartburn and those who did not report heartburn using  $\chi^2$  analyses. Independent samples *t* tests were used to compare mean SDSC and anxiety and depression subscale scores in patients who reported heartburn and those who did not.

# ACADEMIC P.E.A.R.L.S

## Pediatric Evidence And Research Learning Snippet



### Heartburn & sleep disturbance in children

**Results:** In general, 39% of patients met Rome IV criteria for FD only and 8% met criteria for IBS only. Fifty three percent of patients fulfilled criteria for both FD and IBS. Overall, heartburn was reported by 38% of patients. Heartburn was reported by 27% of patients with FD alone, 35% of patients with IBS alone, and 46% of patients fulfilling criteria for both FD and IBS ( $P=.018$ ). There were no differences in sex and age between the groups of patients fulfilling criteria for FD, IBS, or both FD and IBS. Pain with eating, bloating, acid regurgitation, and chest pain were significantly more common in patients who reported heartburn compared to those who did not report heartburn (Table 1). Initiating and maintaining sleep, arousal/nightmares, sleep-wake transition, and hyperhidrosis during sleep were significantly increased in patients who reported heartburn versus patients who did not report heartburn.

**Discussion:** The symptom of heartburn was positively reported by 38% of the patients. This subgroup reported significantly more abdominal pain with eating, bloating, acid regurgitation, and chest pain than those without heartburn. There was no difference in age, sex, or histologic finding of esophagitis for the patients reporting heartburn which is consistent with previous studies. This suggests that treatment with proton pump inhibitor alone may not be sufficient for patients who complain of heartburn symptoms. **Sleep disturbances, and anxiety and depression are associated with functional abdominal pain and these associations are particularly salient in this study of patients reporting heartburn versus patients not reporting heartburn regardless of specific FGID-AP diagnoses.**

Symptom	Heartburn (%)	No Heartburn (%)	P
Epigastric pain	49	39	.127
Pain at night	60	54	.368
Pain with eating	83	67	.007
Early satiety	74	67	.219
Bloating	63	44	.005
Burping	16	12	.327
Acid regurgitation	47	24	<.001
Chest pain	45	20	<.001

Table 1: Percentage of GI in patients diagnosed with FGID-AP and reporting heartburn vs not reporting heartburn. FGID-AP = functional gastrointestinal disorders associated with abdominal pain

### EXPERT COMMENT

**“In clinical practice, we should be routinely assessing for heartburn in our paediatric FGID-AP patients. As sleep disturbances, and anxiety and depression may contribute to development of FGID-AP specially during the pandemic, treatment with proton pump inhibitor alone may not be sufficient for patients who complain of heartburn symptoms.”**

**DR Sufla Saxena**

DNB, MRCPCH (UK), FIPGN (UK)

Sr Consultant Paediatric Gastroenterologist and Hepatologist  
Manipal Hospital Delhi and Columbia Asia Palam Vihar

Section Editor : Dr Moinak Sen Sarma

With warm regards,

**DR. PIYUSH GUPTA**  
IAP NATIONAL  
PRESIDENT 2021

**DR REMESH KUMAR R.**  
IAP PRESIDENT  
2022

**DR BAKUL JAYANT  
PAREKH**  
IAP PRESIDENT  
2020

**DR G.V.  
BASAVARAJA**  
HON. SECRETARY  
GEN. 2021 - 22

### Reference

Colombo JM, Deacy AD, Schurman JV, Friesen CA. Heartburn in children and adolescents in the presence of functional dyspepsia and/or irritable bowel syndrome correlates with the presence of sleep disturbances, anxiety, and depression. Medicine (Baltimore). 2021 Apr 2;100(13):e25426. doi: 10.1097/MD.00000000000025426.

**DR MANINDER S  
DHALIWAL**