

## A Descriptive Study of Functional Dyspepsia in Young Adults and the Role of Early Oesophagogastroduodenoscopy in its Diagnosis

Dr. Chinmay Shankarrao Ingle<sup>1</sup>, Dr. Niteen Chate<sup>2</sup>, Dr. Satish Gireboinwad<sup>3</sup>, Dr. Kaliki Sailesh Reddy<sup>4</sup>  
Dr. Ravikumar Phad<sup>5</sup>

<sup>1</sup> MBBS, MS General Surgery, Junior resident at Dept. Of General Surgery, Swami Ramanand Teerth Rural Medical College, Ambejogai MBBS, MS General Surgery

<sup>2</sup> Professor and Head of Department of General Surgery at Swami Ramanand Teerth Rural Medical College, Ambejogai MBBS, MS General Surgery

<sup>3</sup> Professor and Head of General Surgery Dept. at Swami Ramanand Teerth Rural Medical College, Ambejogai MBBS, MS General Surgery

<sup>4</sup> Junior resident at Dept. Of General Surgery, Swami Ramanand Teerth Rural Medical College, Ambejogai MBBS, MS General Surgery

<sup>5</sup> Assistant Professor at Dept. Of General Surgery, Swami Ramanand Teerth Rural Medical College, Ambejogai  
Email id: <sup>1</sup>idrchinmay@gmail.com, <sup>2</sup>nittinchate@gmail.com, <sup>3</sup>satishgire@gmail.com

<sup>4</sup>ksrkaliki@gmail.com, <sup>5</sup>ravi88gmcite@gmail.com

### ABSTRACT

#### Background:

Dyspepsia is an unspecific complaint among adults seeking medical consultation. More than 20% of people have functional dyspepsia, which is often a non-life-threatening condition that does not necessitate surgery or decrease survival rates. Esophagogastroduodenoscopy is relatively safe, and there is little chance of any significant side effects, including aspiration pneumonia, cardiac arrest, or perforation. This study assessed the findings of esophagogastroduodenoscopy in cases of FD and evaluated the effectiveness of cognitive behavioral therapy in the management of functional dyspepsia.

#### Method:

The current prospective observational study was carried out in the Department of General Surgery at the Government Tertiary Care Hospital over the course of two years, from December 31, 2020, to December 31, 2022. The initial upper GI scopy was done to look for anatomical and functional pathology. Cognitive-behavioral therapy was administered once a week for six weeks under the guidance of a psychiatrist.

#### Outcome of the study:

Approximately 81 patients with the symptoms of dyspepsia were considered, out of whom 48 (59.26%) were male and 33 (40.74%) were female. The majority of cases, i.e., 32 (39.51%), reported having diffuse Oesophagogastritis. PPI plus CBT and CBT (cognitive behavioral therapy) were two treatment modalities used for the dyspepsia patients. The results demonstrated that dyspepsia patients treated with cognitive-behavioral therapy had beneficial long-term effects.

#### Conclusion:

According to the findings of the current study, patients with functional dyspepsia can experience a reduction in symptoms when using cognitive-behavioural stress management techniques. Therefore, collaborating with gastroenterologists, psychologists, and psychiatrists can benefit these individuals.

**Keywords:** Dyspepsia, Functional dyspepsia, cognitive-behavioral therapy, esophagogastroduodenoscopy, Oesophagogastroduodenoscopy.

## Introduction

The word "dyspepsia" is frequently used to describe stomach pain that is localized in the epigastrium and occasionally occurs in conjunction with other gastrointestinal problems. The term describes a wide range of upper abdominal symptoms. <sup>[1,2]</sup>One of the most prevalent issues in routine clinical practice is dyspepsia, which frequently appears in patients with many of these symptoms. <sup>[3]</sup> Dyspepsia was first described as "severe pain in the upper abdomen" by the Rome I and II Consensus. <sup>[1,2]</sup> Organic and functional dyspepsia (FD) are two major groups of dyspepsia.

Because there is no structural reason for the symptoms in 80% of dyspepsia sufferers, they are categorized as having functional dyspepsia (FD). Up to 16% of the community's normally healthy residents have FD. Although technically a normal endoscopy is necessary to diagnose FD, its usefulness in patients with symptoms is constrained; it should only be used in patients over 55 or in those who exhibit alarming symptoms, such as weight loss or vomiting. Because of our limited understanding of pathophysiology, treatment of FD is difficult, and patients have a chronic condition with fluctuating symptoms. <sup>[4]</sup>

Cognitive-behavioral therapy is the most useful method in the management of functional dyspepsia. It helps to relieve psychological discomfort and dysfunction by examining and resolving how the integration of service users' ideas, feelings, and behaviours are contributing to the current issue.

In spite of several therapeutic options for the treatment of FD, it can still be confusing to healthcare providers because dyspepsia-related illnesses are divided into two categories: functional and organic. Endoscopy, upper GI endoscopy, or esophagogastroduodenoscopy (EGD) is an endoscopic procedure that examines the upper part of the gastrointestinal tract down to the duodenum. Esophagogastroduodenoscopy is relatively safe, and there is little chance of any significant side effects, including aspiration pneumonia, cardiac arrest, or perforation. <sup>[5]</sup> This study was conducted in order to assess the findings of esophagogastroduodenoscopy in cases of FD and evaluate the effectiveness of cognitive behavioral therapy in the management of functional dyspepsia.

## Methodology

The prospective observational study was carried out at a government tertiary care center in the Department of General Surgery between December 2020 and December 2022. Prior to the start of the study, the Institutional Ethics Committee (IEC) approved it. Patients were explained about the procedure, and then written informed consent was taken. This study included patients with symptoms like epigastric pain, bloating, and early satiety. Participants who were not willing to participate in the study, such as patients with alarming features for dyspepsia, patients with associated major psychiatric illnesses such as schizophrenia, and patients with associated major gastrointestinal disorders such as Crohn's disease, were excluded from this present study.

The patients were subjected to the initial upper GI scopy, which was done to look for anatomical and functional pathology. Cognitive-behavioral therapy was administered once a week for six weeks. It was carried out under the guidance of a psychiatrist. A discussion session was done regarding modifying habits (alcohol, smoking, etc.) and managing stress with patients.

## Statistical analysis

Chi square test and Student's unpaired test were used to compare mean and SD between two groups, using SPSS 24.0 version IBM USA to analyze the data. The p value of <0.05 represents statistical significance whereas a p value <0.001 was considered as highly significant.

## Results:

**Table-1:** Distribution of age group and gender in the study.

Sex	Cases	Percentage
Female	33	40.74%

Male	48	59.26%
Age group	Cases	Percentage
20-30	21	25.93%
31-40	37	45.68%
41-50	23	28.40%
Total	81	100.00%

According to the table presented above, the patient population was distributed by sex, with 48 males (59.26%) and 33 females (40.74%) out of a total of 81 patients. The age range of the patients was between 20 and 50 years old. The highest incidence of the condition was observed in the 31-40 age group, accounting for 45.68% of the patients. Conversely, the age group of 20-30 had the lowest incidence, with only 25.93% of the patients presenting the condition in this group.

**Table-2:** Risk factor in patients

Risk Factor	Cases	Percentage
Alcoholic	7	8.64%
Analgesics	9	11.11%
Anxiety	6	7.41%
Aspirin	4	4.94%
Depression	27	33.33%
Smoking	15	18.52%
Spicy food	13	16.05%
Total	<b>81</b>	<b>100.00%</b>

From the table-2 above are the different risk factors observed in patients with dyspepsia. Among all reasons, depression was found to be the most prevalent risk factor, accounting for 24.69% of the cases (27 out of 81). The second highest risk factor was smoking, which was reported in 18.52% of the cases, followed by the consumption of spicy food at 16.05%. Anxiety was identified as a risk factor in 7.41% of the cases, with a total of 6 patients exhibiting this factor.

**Table-3:** Oesophagogastroduodenoscopy findings.

Oesophagogastroduodenoscopy findings	Cases	Percentage
Gastritis	15	18.52%

Diffuse Oesophagogastritis	32	39.51%
Diffuse Oesophagogastrroduodenitis	7	8.64%
No underlying organic abnormality	27	33.33%
Total	81	100.00%

The table and graph presented above depict the results of Oesophagogastrroduodenoscopy (OGD) findings in a cohort of 81 patients. The most frequently observed finding was diffuse Oesophagogastritis, reported in 32 cases (39.51%). A total of 27 patients (33.33%) showed no underlying organic abnormality during their OGD, while the least number of cases, i.e., 7 (8.64%), exhibited diffuse Oesophagogastrroduodenitis. Overall, the OGD findings in this study provide insights into the prevalence and distribution of different Oesophagogastrroduodenal abnormalities in the patient population under investigation.

**Table-4:** Location and types of symptoms.

Location and Type of Symptoms	Cases	Percentage
Abdominal Bloating	3	3.70%
Abdominal Fullness	1	1.23%
Bloating	4	4.94%
Bloating and Fullness	5	6.17%
Bloating and Heartburn	1	1.23%
Bloating and nausea	2	2.47%
Bloating and Pain	6	7.41%
Dysphagia	3	3.70%
Early Satiety	5	6.17%
Early Satiety and pain	1	1.23%
Epigastric pain	29	35.80%
Epigastric pain &nausea	1	1.23%
Fullness and Early Satiety	1	1.23%
Fullness and Pain	5	6.17%
Fullness of Abdomen	2	2.47%
Heartburn	4	4.94%
Heartburn and Nausea	1	1.23%
Heartburn and Pain	1	1.23%

Nausea	1	1.23%
Nausea and Bloating	2	2.47%
Nausea and heartburn	1	1.23%
Nausea and Pain	1	1.23%
Pain and Fullness of Abdo	1	1.23%
<b>Total</b>	<b>81</b>	<b>100.00%</b>

The most common symptom reported was epigastric pain, with 29 cases (35.80%). Other common symptoms included bloating and pain (6 cases, 7.41%), early satiety (5 cases, 6.17%), and fullness and pain (5 cases, 6.17%).

Less common symptoms reported included abdominal bloating (3 cases, 3.70%), dysphagia (3 cases, 3.70%), and nausea and bloating (2 cases, 2.47%). There were also several symptoms reported by only one patient, including abdominal fullness, bloating and heartburn, heartburn and nausea, and pain and fullness of abdomen.

**Table-5:** Treatment modality.

Treatment Modality	Cases	Percentage
PPI + CBT	54	66.67%
CBT (Cognitive behavioral therapy)	27	33.33%
<b>Total</b>	<b>81</b>	<b>100.00%</b>

The table-5, above shows the treatment modalities utilized for patients with dyspepsia. Among the total of 81 patients, the PPI+CBT method was applied to 54 patients, while the remaining 27 patients received cognitive behavioral therapy (CBT) treatment alone.

## Discussion

Functional dyspepsia is a polysymptomatic, diverse condition with an uncertain origin. <sup>[6]</sup> This descriptive study was based on functional dyspepsia, its representation, and the administration of cognitive behavioral therapy. It was designed to explore the Oesophagogastroduodenoscopy findings in cases of functional dyspepsia.

This study sought to examine the efficacy of cognitive-behavioral therapy in addressing patients' functional dyspepsia symptoms. A data study revealed that cognitive-behavioral treatment helped with functional dyspepsia symptoms. Additionally, this difference persisted for six weeks following the follow-up. The current findings are in line with those of studies by <sup>[7-9]</sup>, which found that patients with functional dyspepsia were less likely to have strong social connections and high levels of self-esteem, as well as physical and mental health issues.

According to a study by <sup>[8]</sup>, gastrointestinal diseases can be improved with cognitive-behavioral therapy, stress reduction, interpersonal psychotherapy, and relaxation techniques. According to <sup>[9]</sup>, patients with functional dyspepsia who experience depressive symptoms lack social support and problem-focused coping mechanisms. A suitable option for people with functional dyspepsia is cognitive-behavioural therapy, which improves coping mechanisms and social support. <sup>[10]</sup>

Assert that functional dyspepsia patients who are stressed often experience considerable levels of rage, worry, and anxiety. Due to the stress that bloating, upper abdominal discomfort, nausea or vomiting, and belching create, these individuals are agitated and irritable. As a result, there is a cycle between anxiety and functional

dyspepsia signs and symptoms. In order to avoid using violent responses to resolve problems, cognitive-behavioural therapy encourages patients to utilize suitable methods.

Despite the fact that most benign conditions can induce dyspepsia, the risk rises with patient age. As a result, every patient with dyspepsia was carefully chosen for Oesophagogastroduodenoscopy. When the results of our study were compared to those of other comparable studies, the following conclusions were drawn: Male and female incidences of dyspepsia were reported to be 61.78% and 38.21%, respectively<sup>[11]</sup>, while <sup>[12]</sup> found 61.6% and 28.4%. In our study, it was 59.26% and 40.74%, respectively, which is similar to other studies. According to <sup>[13]</sup>, male and female incidence rates are 46.52% and 53.48%, respectively. In our study, the age range of 31 to 40 years had the highest prevalence of dyspepsia, which is comparable to studies by <sup>[14]</sup> (30–40 yr.) and <sup>[15]</sup>(31–40 yr.)

Our study had the highest prevalence of gastritis (18.32%), which is comparable to other studies; the <sup>[12]</sup>study had 39.3% gastritis, the <sup>[14]</sup>study had 51.1%, and the <sup>[11]</sup>study had 44.1%.<sup>[13]</sup>reported a 41.6% prevalence of gastritis.

In our study, the incidence of diffuse Oesophagogastroduodenitis was 8.64%, which was very similar to other studies <sup>[16]</sup>is 9.5%, and<sup>[17]</sup>is 2.37%.

Our questionnaire forms were used to assess the patients' dyspepsia symptoms. The Rome III criteria were used to identify FD in 81 patients who had normal endoscopic results. According to Rome III criteria, individuals with chronic dyspeptic complaints had a median FD rate of 40.9%, according to <sup>[18]</sup>According to Rome III criteria, the median FD rate among patients with dyspepsia symptoms in a population-based study conducted in Japan was discovered to be 14.2%.<sup>[19]</sup> In a study conducted in Asia, the prevalence of FD was shown to span a wide range, from 7.4% to 70%.<sup>[20]</sup> However, these investigations were assessed using various standards, and the patient ages were distributed unevenly. As a result, these researchers' findings on the incidence of FD varied greatly.

It is widely known that people with FD are more susceptible to developing somatization, anxiety, and other mental comorbidities. The majority of research points to the fact that these symptoms exist before the gastrointestinal diagnosis and are therefore likely involved in its pathophysiology.<sup>[20]</sup> Cognitive-behavioural therapy helped to reduce the underlying anxiety, depression, and pain catastrophizing behaviours. All of the patients had the opportunity to talk about the somatic, psychological, and social components of their issues during the CBT session, one week later, and at the follow-up appointment, making it clear that this was their area of concern and responsibility.

Anxiety and depression may have decreased as a result of the decrease in physical symptoms. Over the course of six weeks, the therapy group had just one session. The improvement seen at follow-up for these patients may suggest that many FD patients will also benefit from treatment programs that emphasize continuity and emotional support; family doctors may seek such treatment programs.

## Conclusion

One of the most typical problems observed in general practice is functional dyspepsia. It appears to be a heterogeneous condition where various pathophysiologic abnormalities are linked to various symptom profiles. The present study showed that factors such as depression, smoking, spicy food, and anxiety were the most common risk factors in patients referred for an endoscopy examination.

The findings of the current study suggest the efficacy of cognitive-behavioural stress management techniques for symptom reduction in functional dyspepsia patients. Therefore, collaboration between gastroenterologists, psychologists, and psychiatric professionals can benefit these individuals. The relative dependability of treatment outcomes during the follow-up period is typically correlated with the active therapeutic strategies offered by the patient.

Therefore, more well-designed trials with sufficient significance are needed for future research to evaluate the impact of the treatment on quality-of-life assessments as well as the improvement in dyspepsia symptom scores using a common validated questionnaire.

Future studies must also examine the idea of PPI+ CBT therapy in a clinical (routine) environment and assess whether this strategy is cost-effective.

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