

Generalized Anxiety in Uninvestigated Dyspepsia Patients: A Single Centre Cross-Sectional Study

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Abstract

Introduction: Generalized anxiety is the most common mental disorder worldwide. Psychological stress like anxiety may cause gastrointestinal distress and lead to dyspeptic symptoms. Moreover, dyspepsia especially uninvestigated dyspepsia in turn may cause anxiety among the patients by creating uncertainty about the disease and its future.

Objective: To measure anxiety among patients suffering from uninvestigated dyspepsia. **Materials and Methods:** This study was conducted at the outpatient department of Medical Gastroenterology, Sheikh Russel National Gastroenterology Institute and Hospital from December 2023 to May 2024 over six months. A total of 164 patients of uninvestigated dyspepsia patients were enrolled and by dint of GAD-7 validated Bengali questionnaire their generalized anxiety level was measured and categorized. Demographic variables were analyzed by chi square test and correlation with anxiety and number of symptoms was done by Pearson correlation. P value < 0.05 was regarded as statistically significant.

Results: One hundred and sixty-four patients with uninvestigated dyspepsia attending the outpatient department of Sheikh Russel National Gastroenterology Institute and Hospital from December 2023 to May 2024 were enrolled. Among the patients, 92 patients were female and 72 were male without any significant difference ($P = 0.06$). The common age group with dyspepsia and anxiety was 18-40 years. The difference with higher age groups was significant ($P = 0.02$). Most participants were service holders or businessman professions without significant differences ($P = 0.97$). There was a significant positive correlation between anxiety and an increasing number of symptoms of dyspepsia ($P = 0.007$, $r = +.9929$). **Conclusion:** Anxiety and dyspepsia have a positive relationship. Younger age, female sex and stressed professions like service may contribute to dyspepsia.

Keywords: Generalized Anxiety, Uninvestigated Dyspepsia, GAD-7 Questionnaire.

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Introduction:

Generalized Anxiety Disorder (GAD) belongs to a group of mental health conditions including panic disorder, phobias, social anxiety disorder, Obsessive-Compulsive Disorder (OCD), and Post-Traumatic Stress Disorder (PTSD)¹. In the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), GAD has been stated to include both psychological symptoms such as persistent worrying and overthinking, difficulty handling uncertainty, restlessness, indecisiveness, etc. as well as physiological symptoms such as fatigue, sleeplessness, muscle tension, nervousness, nausea, irritability, etc.^{2,3}. About 4% population of the world is suffering from generalized anxiety disorder. In the year 2019, 301 million people in the world suffered from anxiety disorder⁴. So, it is the most common mental disorder worldwide. A study estimated the prevalence of GAD to be around 37.3% among individuals in Bangladesh aged between 13 to 63 years⁵. Dyspepsia is one of the most common medical conditions observed throughout the whole world. It affects 20–45% of the general adult population^{6,7}. The term ‘dyspepsia’ was derived from the Greek term ‘dyspeptos’ which means ‘difficult to digest’. ‘Indigestion’ is the non-medical term for dyspepsia. Dyspepsia is used to describe a constellation of symptoms arising from the upper abdomen, such as upper abdominal ‘discomfort’, ‘pain’, bloating, upper abdominal fullness, burning, flatulence, satiation, nausea, vomiting, heartburn, regurgitation, frequent burping (belching) and anorexia⁸. Dyspepsia may be divided into two types- Organic and functional⁹. Uninvestigated dyspepsia indicates patients with new or recurrent dyspeptic symptoms in whom no investigations have been previously undertaken¹⁰. Globally, the prevalence of uninvestigated dyspepsia (UD) varies between 7% - 45%, depending on the definition used and geographical location, whilst the prevalence of FD has been noted to vary between 11% - 29.2%¹¹. The prevalence of dyspepsia in the adult population of Bangladesh is 61.9% which is very high compared to other countries and also much higher than the prevalence found in our country thirty years back¹². In an Australian population-based study, it was found that psychological distress was linked to having persistent functional gastrointestinal symptoms and frequently seeking health care for them. However, these subjects were not investigated for structural disease¹³. In a Finnish study, the risk of having mental distress was nearly 4-fold higher among patients with dyspepsia and functional dyspepsia than among controls¹⁴. This study aims to measure the generalized anxiety level in uninvestigated dyspepsia patients.

Materials and Methods:

This was a cross-sectional study conducted at the outpatient department of Medical Gastroenterology, Sheikh Russel National Gastroenterology Institute and Hospital from December 2023 to May 2024 over six months. A total of 164 consecutive willing adult patients suffering from uninvestigated dyspepsia were enrolled in the study. Patients

suffering from prior anxiety disorders and any neuropsychiatric disorders were excluded from the study. The GAD-7 questionnaire was used to measure generalized anxiety symptoms¹⁵. It was validated in Bengali and that questionnaire was used here¹⁶. As per definition common upper abdominal symptoms like epigastric pain, epigastric burning, postprandial fullness, early satiety, bloating, and anorexia were regarded as dyspeptic symptoms. Ethical clearance was taken from ethical review committee of the institute. Demographic data including sex, age, and profession were noted and analyzed by chi-square test. Correlation between the number of patients with one/ two symptoms or three or more than three symptoms with different levels of anxiety was done by Pearson Correlation. All analyses were performed using the statistical software package SPSS version 26.0. P value < 0.05 was considered as statistically significant.

Results:

A total of 164 patients suffering from uninvestigated dyspepsia were enrolled in the study. This study was done in the outpatient department of Sheikh Russel National Gastroenterology Institute from December 2023 to May 2024.

Table I shows common demographic features of the patients of uninvestigated dyspepsia participating in the study. Among the participants 92 (56.09%) were female and 72 (43.91%) were male. The difference between the two groups with different levels of anxiety was not statistically significant (P = 0.06). Anxiety was found to be more in the 18-40 years age group. The difference between the 18-40 years age group, 41-60 years age group, and >60 years age group was statistically significant (P = 0.02). Among the participants business and service were the predominant profession. The difference between the participants' professions was not statistically significant (P = 0.97).

Table-I: Demographic Profile of Uninvestigated Dyspepsia Patient

Parameter	No Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	P Value
Gender					
Male	12	28	30	2	0.06
Female	16	38	26	10	
Age					
18-40 years	12	38	22	6	0.02*
41-60 years	8	20	12	2	
≥ 60 years	8	8	22	6	
Profession					
Business	5	12	13	2	0.97
Farming	5	10	9	3	
Service	13	36	25	6	
Studentship	5	8	9	3	

Table II shows the correlation between different levels of anxiety and patients with only one/two symptoms or patients with three or more symptoms. It was positively correlated and statistically significant ($r = +0.9929$, $P = 0.007$).

Table II: Correlation between Different Levels of Anxiety with Dyspeptic Symptoms

Parameter	Patients with One/Two symptoms	Patients with Three or more symptoms	Correlation coefficient	P Value
No Anxiety	12	16	+0.9929	0.007*
Mild Anxiety	24	42		
Moderate Anxiety	20	36		
Severe Anxiety	6	8		

Discussion:

This cross-sectional study was conducted in the outpatient department of Sheikh Russel National Gastroenterology Institute and Hospital from December 2023 to May 2024. A total of 164 patients with uninvestigated dyspepsia were enrolled in the study. Females are more prone to anxiety among dyspepsia patients¹⁷. Our study showed the same. Females 92(56.09%) were more in number than males 72 (43.91%). But the difference was statistically insignificant ($P = 0.06$). The age group with the most predominant dyspeptic symptoms in this study was the 18-40 years age group with a total of 78 (47.56%) patients. In a previous study conducted by Huang et al, among the study participants, 52.04% of patients with dyspepsia were found in the 18-29- and 30-39-years age groups. The difference between 18-40 years, 41-60 years, and > 60 years age group were found to be statistically significant ($P=0.02$). Among the participants service and business are the most predominant profession. Dyspepsia may be related to the professions with high mental stress. Huang et al showed dyspepsia is more common in manual workers (45.98%)¹⁸. However, there was no statistically significant difference ($P = 0.97$). A significant positive relationship was found between anxiety and dyspepsia with p value of 0.007 and a correlation coefficient of 0.9929. One Swedish study showed a significant relationship between uninvestigated dyspepsia and functional dyspepsia with anxiety¹⁹. Another study by Tshabalala, et al in a hospital in South Africa found that among the 201 participants, 149 had dyspepsia along with anxiety²⁰. However, this study had some limitations. Other factors that may contribute to dyspepsia like alcohol consumption, smoking, NSAID intake, and genetic factors were not analyzed or taken into account in this study. So, future research based on those factors along with both anxiety and depression may help to identify all the factors related to dyspepsia.

Conclusion:

According to the result of this study, Anxiety and dyspepsia have a significant positive relationship. Moreover, younger age patients are found to be more prone to suffer from anxiety and dyspepsia. Further large-scale population-based study is wanted to find out all the factors leading to dyspepsia in Bangladesh.

Conflict of Interest: None.

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