

FREQUENCY OF DEPRESSION IN FUNCTIONAL DYSPESIA PATIENTS PRESENTING TO A TERTIARY CARE HOSPITAL

Muhammad Kamran Hassan¹, Moeen-Ul-Haq², Ahmad Nawaz Babar³, Abbas Khan Khattak⁴

¹⁻⁴ Department of Gastro-ent-erology, Lady Reading Hospi-tal, Peshawar - Pakistan.

Address for correspondence:
Dr. Muhammad Kamran Hassan

Senior Registrar,
Department of Gastroenterol-ogy, Lady Reading Hospital,
Peshawar - Pakistan.
Email: drkamran177@yahoo.com

Date Received:
May 24, 2016
Date Revised:
July 20, 2016
Date Accepted:
July 25, 2016

ABSTRACT

Objective: To determine the frequency of depression in functional dyspepsia patients.

Methodology: 247 patients satisfying Rome III definition of functional dyspepsia were assessed for depression applying NICE criteria for diagnosis of depression. Subjects with alarm features in history and examination were excluded as well as patients with any co morbid condition to reduce bias. The patients were put into various groups depending upon patient's predominant symptoms. The frequency of depression was assessed in dyspeptic patients. Furthermore strength of association was also checked between various variables and depression in dyspeptic patients.

Results: Among 247 patients, 107 patients were female and 140 patients were male. Mean age and mean duration of illness was 35.84 ± 11 years and 2.33 ± 2.38 years respectively. Epigastric pain syndrome (EPS) was present in 28.9% of the patients, postprandial distress syndrome (PDS) was present in 28.5% of the patients and 42.7% had both the symptoms. Depression was diagnosed in 75.3% of functional dyspepsia patients. We found significant association between female gender and depression with a p value of 0.009. In univariate analysis significant association was again found between female gender and depression (OR 2.32, p value 0.01) but duration of the disease and dyspepsia group had no association.

Conclusion: Frequency of depression was found high in functional dyspepsia patients. Therefore every functional dyspepsia patient should be thoroughly assessed for depression.

Key Words: Rome III criteria, Depression, Functional dyspepsia

This article may be cited as: Hassan MK, Haq MU, Babar AN, Khattak AK. Frequency of depression in functional dyspepsia patients presenting to a tertiary care hospital. *J Postgrad Med Inst* 2016; 30(3): 282-5.

INTRODUCTION

According to the Rome III criteria, functional dyspepsia is defined as the presence of early satiation, postprandial fullness, epigastric pain and epigastric burning in the absence of organic, systemic or metabolic disease that is likely to explain the symptoms¹. Twenty five percent of population suffers from functional dyspepsia each year although most of the patients do not consult their physician for this problem still it causes significant health care burden^{2,3}. Epidemiological studies reported that functional dyspepsia is prevalent in about 15% of the population of Europe⁴.

Functional dyspepsia is a multifactorial biopsychosocial disorder, pathophysiology involves gastroduodenal dysmotility, visceral hypersensitivity and possibly CNS disturbances^{5,6}. However relationship between pathophysiologic mechanisms and etiologic factors has not been studied in detail⁷. Studies assessing causal

relationship of psychological factors in functional dyspepsia yielded conflicting results, whether dyspepsia results in psychological issues or psychological issues cause dyspeptic symptoms^{8,9}. Psychosocial factors can affect intestinal motility and patients often seek clinical attention for dyspeptic symptoms during stressful periods^{5,6}. Epidemiological studies have described a definite relationship between functional gastrointestinal disorders and psychosocial distress. Psychological factors do not discriminate whether the patients are suffering from functional dyspepsia or organic (FD or OD).

Depression is highly prevalent in general Pakistani population as well as in dyspeptic patients. Depression prevalence is reported as 53.4%, 43.9% and 35.7% in Lahore, Quetta and Karachi respectively¹⁰. A local study reported that 46.5% of dyspeptic patients had depression¹¹. Increasing population, poverty, unemployment, high illiteracy rates and political instability has created a sense of frustration and deprivation in the citizens of

Pakistan. In Pakistan little data is available regarding prevalence of depression and dyspepsia. Dyspepsia is reported in approximately 30% of the general population in Mumbai while in a Hong Kong study dyspepsia was present in 8 % of population and among these patient 12.4% suffered from major depression while 3.8% suffered from generalized anxiety^{12,13}.

We conducted this study to determine the frequency of depression among functional dyspepsia patients presenting to the gastroenterology Out Patient Department (OPD) in a tertiary care Hospital.

METHODOLOGY

All the dyspeptic patients coming to the gastroenterology OPD were included in the study fulfilling the Rome 3 criteria in a consecutive manner. They were inquired about symptoms and their duration. They were asked about history of weight loss, anorexia, vomiting, odynophagia, dysphagia, h/o GI bleed, surgery and endoscopy. Patients were examined for anemia, jaundice, lymphadenopathy and mass abdomen. Patients with alarm features were excluded to reduce bias and OGD was ordered. Similarly patients with any co morbid condition were excluded. All the eligible patients were then assessed for depression using NICE depression screening tool. Each patient was asked following two questions.

During the last four weeks have you been feeling depressed, down, or hopeless?

During the last four weeks have you been bothered by having little pleasure or interest in doing things?

If patient answered 'yes' to any of the two questions, we asked the further three questions:

During the last four weeks, have you been bothered by:

- Thoughts of death?
- Feeling of worthlessness?
- Poor concentration?

Stool antigen and serology for H. pylori in a subgroup of patients with functional dyspepsia were carried out. Testing and treating for H. pylori leads to significant improvement in dyspeptic symptoms in these patients. Endoscopy is not recommended in these patients if no alarm features are present.

We recorded all the information in a predesigned proforma. We recorded patient personal information like age and gender as well. Chi-Square Test was used for statistical analysis. We analyzed data with SPSS version 17.

RESULTS

We included 247 patients in our study. 107(43.3%) patients were female and 140(56.7%) patients were male. Mean age and mean duration of illness was 35.84±11 years and 2.33±2.38 years respectively. Epigastric pain syndrome (EPS) was present in 28.9% of the patients, Postprandial distress syndrome (PDS) was present in 28.5% of the patients and 42.7% had both the symptoms. H pylori stool antigen and H pylori serology were positive in 24.4% and 44.8% of patients respectively.

Depression was diagnosed in 75.3% of functional dyspepsia patients. Among these feeling of worthlessness was 88.7% while poor concentration was reported to be 69.2%. About 19% of the patients confessed that they had thoughts of death in the last four weeks.

Effect of gender, dyspepsia group and stool antigen test on depression were assessed. Only female gender was significantly associated with depression with a p

Figure 1: Dyspepsia groups

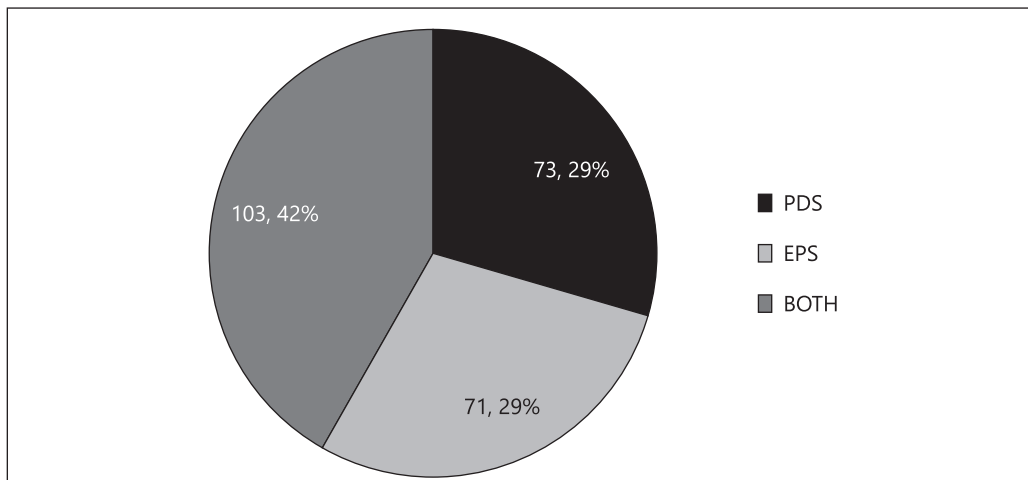


Table 1: Depression parameters

Depression parameters	Yes	No
Feeling Worthlessness	219(88.7%)	28(11.3%)
Poor Concentration	171(69.2%)	76(30.8%)
Thought of Death	47(19%)	200(81%)

Table 2: Gender and depression

Gender	Depression		Total	P value
	Yes	No		
Male	97(69.3%)	43(30.7%)	140	0.009
Female	89(83.2%)	18(16.8%)	107	
Total	186(75.3%)	61(24.7%)	247	

value of .009 while dyspepsia group and stool antigen were not (p value of 0.3 and 0.7 respectively).

In univariate analysis we found significant association between female gender and depression (OR 2.32, p value 0.01) while subgroup of duration of illness and dyspepsia had no association with depression.

DISCUSSION

Our study suggests that depression may be as high as 75.6% based on initial screening tool suggested by NICE guidelines for depression. This staggering number of dyspeptic patients suffering from depression may be due to the fact that this study was done in Peshawar, KP where the prevalence of anxiety and depression is already high due to adverse law and order situation. In a Pakistani study prevalence of depression was 44.4% in general population¹⁴. While in another study depression prevalence in three big cities of Pakistan is reported as 53.4%, 43.9% and 35.7% in Lahore, Quetta and Karachi respectively¹⁰. These figures are in general population and based on these we expect higher prevalence of depression in functional dyspepsia patients in whom dyspepsia may be a manifestation of anxiety or depression. In contrast anxiety depression may be due to chronic nature of dyspepsia symptoms, as in a population-based non-endoscopic survey in Australia found that mental distress, and anxiety were predictors for a functional gastrointestinal disorder diagnosis but psychological factors did not discriminate between consulters and non-consulters¹⁵.

Magni et al reported that 67% of functional dyspepsia patients were suffering from an anxiety disorder while only twenty percent of organic dyspepsia patients had anxiety disorder¹⁶. In 201 functional dyspepsia patients depression, psychosocial factors, and abuse history, determined the severity of dyspeptic symptoms. These findings were further supported by a recent randomised control trial (RCT) reporting that anxiolytic and antidepressant combination yielded a short-lived

symptomatic improvement in functional dyspepsia¹⁷. A cross sectional study reported that dyspeptic patients are at twice increased risk of generalized anxiety disorder (OR =2.03, 95% CI: 1.06–3.89, P <0.001) and a three times increased risk of major depressive episode (OR = 3.56, 95% CI: 2.33–5.43, P <0.001)¹³.

In our study female gender had significant association with depression in functional dyspepsia patients which is consistent with the fact that functional gastrointestinal disorders occur more frequently in female patients. This was also evident in a Pakistani study in which frequency of depression in female was 57.5% as compared to 25.5% in male population¹⁴. In previously mentioned study female gender (OR =1.65, 95% CI: 1.21–2.23, P <0.001) was reported as independent predictor of frequent medical consultations¹³. Limited evidence suggests that patients presenting with post-prandial distress syndrome have more chances of having psychological issues but in our study we found no significant difference among dyspepsia group^{18,19}.

In contrast to above studies Pajala et al reported no significant difference in frequency of psychosocial issues in functional dyspepsia when compared with organic gastrointestinal disease, and symptomatic improvement with management of mental illness reached statistical significance in patients suffering from organic dyspepsia²⁰. Furthermore, the results of an RCT in Netherlands reported no significant difference in venlafaxine and placebo in management of functional dyspepsia²¹. A population based study conducted in Northern Sweden found that anxiety is an independent risk factor for functional dyspepsia but not depression¹⁹. These differences in studies may be due to the fact that these studies were done in different populations having different prevalence of depression in general public.

LIMITATION

A limitation of our study is that this is just a screening tool for depression and not diagnostic tool by it-

self like DSM IV etc. NICE guidelines recommend that these patients should be further assessed using other sophisticated tools like patient health questionnaire (PHQ-9), hospital anxiety and depression scale (HAD), Beck depression inventory (BDI-II) etc. However this study shows that mental stress and depression may be the most important factor to consider in functional dyspepsia patients.

CONCLUSION

Frequency of depression was found high in functional dyspepsia patients. Therefore every functional dyspepsia patient should be thoroughly assessed for depression.

REFERENCES

1. Tack J, Talley NJ, Camilleri M, Holtmann G, Hu P, Malagelada JR et al. Functional gastroduodenal disorders. *Gastroenterology* 2006; 130:1466-79.
2. Tack J, Bisschops R, Sarnelli G. Pathophysiology and treatment of functional dyspepsia. *Gastroenterol* 2004; 127:1239-55.
3. Kurata JH, Nogawa AN, Everhart JE. A prospective study of dyspepsia in primary care. *Dig Dis Sci* 2002; 47:797-803.
4. Shaib Y, El-Serag HB. The prevalence and risk factors of functional dyspepsia in a multiethnic population in the United States. *Am J Gastroenterol* 2004; 99: 2210-6.
5. Talley NJ, Silverstein MD, Agréus L, Nyrén O, Sonnenberg A, Holtmann G. AGA Technical Review: evaluation of dyspepsia. *Gastroenterol* 1998; 114:582-95.
6. Talley NJ, Stanghellini V, Heading RC, Koch KL, Malagelada JR, Tytgat GN. Functional gastroduodenal disorders: a working team report for the Rome II consensus on functional gastrointestinal disorders. *Gut* 1999; 45:1137-42.
7. Karamanolis G, Caenepeel P, Arts J, Tack J. Association of the predominant symptom with clinical characteristics and pathophysiological mechanisms in functional dyspepsia. *Gastroenterology* 2006; 130:296-303.
8. Pajala M, Heikkinen M, Hintikka J. A prospective 1-year followup study in patients with functional or organic dyspepsia: changes in gastrointestinal symptoms, mental distress and fear of serious illness. *Aliment Pharmacol Ther* 2006; 24:1241-6.
9. Quartero AO, Post MW, Numans ME, de Melker RA, de Wit NJ. What makes the dyspeptic patient feel ill? A cross sectional survey of functional health status, *Helicobacter pylori* infection, and psychological distress in dyspeptic patients in general practice. *Gut* 1999;45:15-9.
10. Muhammad Gadit AA, Mugford G. Prevalence of depression among households in three capital cities of Pakistan: need to revise the mental health policy. *PLoS One* 2007;

2:e209.

11. Mehmood K, Hameed Z, Shoukat S, Hasan F, Alam AY, Hameed A et al. Predictors Of depression in patients presenting with Dyspeptic symptoms in a GI clinic. *J Ayub Med Coll Abbottabad* 2011; 23:49-52.
12. Shah SS, Bhatia SJ, Mistry FP. Epidemiology of dyspepsia in the general population in Mumbai. *Indian J Gastroenterol* 2001; 20:103-6.
13. Mak AD, Wu JC, Chan Y, Chan FK, Sung JJ, Lee S. Dyspepsia is Strongly Associated With Major Depression and Generalised Anxiety Disorder: A Community Study. *Aliment Pharmacol Ther* 2012; 36:800-10.
14. Husain N, Creed F, Tomenson B. Depression and social stress in Pakistan. *Psychol Med* 2000; 30:395-402.
15. Koloski NA, Talley NJ, Boyce PM. Epidemiology and health care seeking in the functional GI disorders: a population-based study. *Am J Gastroenterol* 2002; 97:2290-9.
16. Magni G, di Mario F, Bernasconi G, Mastropaolo G. DSM-III diagnoses associated with dyspepsia of unknown cause. *Am J Psychiatry* 1987; 144:1222-3
17. Hashash JG, Abdul-Baki H, Azar C, Elhadj II, El Zahabi L, Char HF et al. Clinical trial: a randomized controlled cross-over study of flupenthixol+melitracen in functional dyspepsia. *Aliment Pharmacol Ther* 2008; 27:1148-55.
18. Hsu YC, Liou JM, Liao SC, Yang TH, Wu HT, Hsu WL et al. Psychopathology and personality trait in subgroups of functional dyspepsia based on Rome III Criteria. *Am J Gastroenterol* 2009; 104:2534-42.
19. Aro P Talley NJ, Ronkainen J, Storskrubb T, Vieth M, Johansson SE, Bolling-Stermevald E et al. Anxiety is associated with uninvestigated and functional dyspepsia (Rome III Criteria) in a Swedish population-based study. *Gastroenterology* 2009; 137:94-100
20. Pajala M, Heikkinen M, Hintikka J. A prospective 1-year follow-up study in patients with functional or organic dyspepsia: changes in gastrointestinal symptoms, mental distress and fear of serious illness. *Aliment Pharmacol Ther* 2006; 24:1241-6.
21. Van Kerkhoven LA, Laheij RJ, Aparicio N, De Boer WA, Van den Hazel S, Tan AC et al. Effect of the antidepressant venlafaxine in functional dyspepsia: a randomized, double-blind, placebo-controlled trial. *Clin Gastroenterol Hepatol* 2008; 6:746-52.

CONTRIBUTORS

MKH conceived the idea, planned the study, and drafted the manuscript. MUH and ANB helped acquisition of data and did statistical analysis. AKK critically revised the manuscript. All authors contributed significantly to the submitted manuscript.