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

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INTRODUCTION

According to the Rome III criteria, functional dyspepsia is defined as the presence of early satiation, post-prandial 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 burden²,³. 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 disturbances⁵,⁶. 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 symptoms⁸,⁹. Psychosocial factors can affect intestinal motility and patients often seek clinical attention for dyspeptic symptoms during stressful periods⁵,⁶. 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.\textsuperscript{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
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 population\(^1\). 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 respectively\(^2\). 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 consultants and non-consulters\(^3\).

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 disorder\(^4\). 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 dyspepsia\(^5\). 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)\(^6\).

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 population\(^7\). 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 consultations\(^8\). 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\(^9,10\).

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 dyspepsia\(^11\). Furthermore, the results of an RCT in Netherlands reported no significant difference in venlafaxine and placebo in management of functional dyspepsia\(^12\). A population based study conducted in Northern Sweden found that anxiety is an independent risk factor for functional dyspepsia but not depression\(^13\). 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-

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<th>Table 1: Depression parameters</th>
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<td>Feeling Worthlessness</td>
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<td>Poor Concentration</td>
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<td>Thought of Death</td>
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<th>Table 2: Gender and depression</th>
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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**


**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.