

Frequency of Depression, Anxiety and Stress in Patients Referred for Endoscopy with Symptoms of Dyspepsia

Syed Ifthikhar Haider, Inam Rasool, Sohail Ahmed, Samina Hussein,
Jamil Hussein, Munir Hamirani

ABSTRACT

OBJECTIVE: This study was aimed to see the frequency of anxiety, depression and stress in patients with dyspeptic symptoms referred for endoscopy.

DESIGN: Cross sectional study.

SETTING: Department of medicine & psychiatry Baqai Medical University, Fatima hospital, Gadap, Karachi.

DURATION: The study was conducted from Jan 2011 to Jun 2011

METHOD: Patients referred from department of medicine with symptoms of dyspepsia were assessed at department of psychiatry Baqai University before endoscopy.

A total of 40 patients, fulfilling the inclusion criteria were enrolled for the study and their demographic variables were obtained using a Performa specially designed for this purpose. Urdu version of DASS (Depression Anxiety Stress Scale) was administered to the selected sample to establish the presence of three emotional states--anxiety, depression and stress. The DASS is a 42-item self report instrument designed to measure the three inter-related negative emotional states of depression, anxiety and tension/stress. The findings are mentioned in the results.

RESULTS: A total of 40 patients comprising 29 females and 11 males ranging between 15-70 years of age with a mean age of 32.8 years completed the study. In the studied sample of 40 patients, 82.5% had anxiety, 60% had depression and 67.5 % had stress. Moreover 80% of sample group were found to have inflammatory changes on endoscopy and in this group anxiety was the most prominent emotional state. In the remaining 20% who had no inflammatory findings on endoscopy, depression, anxiety and stress were equally prevalent.

CONCLUSION: Emotional disturbances in the form of anxiety, depression and stress were frequently seen in patients suffering from dyspepsia and anxiety was the most dominant among these three negative emotional states. Evaluation of anxiety in the management of dyspepsia is suggested.

KEY WORDS: Dyspepsia, Anxiety, Depression, Stress, DASS.

INTRODUCTION

Dyspepsia is a frequently seen symptom in medical practice and it is characterized by chronic or recurrent pain or discomfort in the upper abdomen, upper abdominal fullness and feeling full earlier than expected when eating.⁽¹⁾ In a significant number of patients with dyspepsia, organic lesions are not found.⁽²⁾ Those patients with dyspepsia which do not have an organic cause are collectively labeled as "non-ulcer dyspepsia" or "functional dyspepsia" which is estimated to affect about 15% of the general population in western countries.⁽³⁾ These patients are "without evidence of an organic disease that is likely to explain the symptoms"⁽⁴⁾. Before labeling functional dyspepsia, endoscopic examination is usually done in majority of these patients, presenting with features of dyspepsia. Although it is repeatedly mentioned in literature that anxiety, depression and stress are frequently seen in

patients of dyspepsia⁽⁵⁾⁽⁶⁾ and a strong correlation of gastrointestinal symptoms of non organic origin is reported with anxiety disorders and depression^{7-8,9,11}, the literature review also supports strong association between inflammatory changes in upper GIT and psychiatric

disturbances.¹⁰⁻¹⁵ Studies conducted locally, also suggest some association of dyspeptic symptoms with psychological disturbances⁽¹⁶⁾⁽¹⁷⁾.

It is therefore important to study different aspects of relationship between dyspepsia and psychiatric morbidity. Furthermore it would be more appropriate if this aspect is studied in local population. Keeping in mind this background, the present study was conducted to find out the frequency of anxiety, depression and stress in patients with dyspepsia.

MATERIAL & METHODS

This cross sectional study was carried out at the

Frequency of Depression, Anxiety and Stress in Patients

department of Medicine & department of Psychiatry, Fatima Hospital, Gadap, Baqai Medical University, Karachi from January 2011 to June 2011.

All those dyspeptic patients referred from medical OPD for endoscopy were included in the study. The total sample included patients of both sexes and all ages, irrespective of their marital and educational status.

Patients with known psychiatric and medical illnesses were excluded from study. The research protocol of the study was submitted and got approved by Ethical Committee. A written informed consent was taken from all these patients and their demographic details were obtained by using a Performa specially designed for this purpose. Following selection of cases, the patients were administered. Urdu version of Depression Anxiety Stress Scale (DASS)⁽¹⁸⁾. The DASS is a 42-item self-administered, questionnaire designed to measure the magnitude of three negative emotional states: depression, anxiety, and stress. Numerous studies have found favorable psychometric properties of the DASS in adults with anxiety and/or mood disor-

ders⁽¹⁹⁻²²⁾ All studies have demonstrated excellent internal consistency of the DASS scales. In a sample population of 1771, John Crawford⁽²¹⁾ found the reliability of the DASS as excellent with adequate convergent and discriminant validity. Urdu versions of DASS (Habib translation by Maria Habib, Lahore) has been used in local studies as well⁽²³⁾. The cut off value of DASS scoring is 9 for Depression, 7 for Anxiety and 14 for Stress.⁽¹⁶⁾ DASS has been used in several studies and is found to be a very useful tool.⁽²⁴⁻²⁸⁾ The endoscopy of the sample population was done and the findings regarding presence or absence of any organic pathology were recorded. Frequency of depression, anxiety and stress in both the groups i.e. with evidence of inflammation on endoscopy and without evidence of inflammation was assessed.

RESULTS

A total of 40 patients fulfilling the inclusion criteria completed the study. There were 29 females and 11 males, the minimum age of sample group was 15yrs and maximum was 70yrs with a mean age of 32.8 yrs.

TABLE I: FREQUENCY OF DEPRESSION, ANXIETY AND STRESS (DASS SUB SCALES SCORES) (n=40)

Severity*	Depression		Anxiety		Stress	
	Frequency	%	Frequency	%	Frequency	%
0	16	40	7	17.5	13	32.5.9
1	4	10	8	20	5	12.5.7
2	12	30	7	17.5	12	30.0
3	5	12.5	9	22.5	6	15.0
4	3	7.5	9	22.5	4	10.0
Total	40	100	40	100	40	100

*0=normal, 1=mild, 2=moderate, 3=severe, 4=very severe

TABLE II: DETAILED ANALYSIS OF THE DASS SCORES (n = 40)

No of Patients	Depression	Anxiety	Stress	Percentage
03	Not present	Not present	Not present	7.5 %
00	Present	Not present	Not present	0 %
06	Not present	Present	Not present	15 %
03	Not present	Not present	Present	7.5 %
04	Present	Present	Not present	10 %
04	Not present	Present	Present	10 %
01	Present	Not present	Present	2.5 %
19	Present	Present	Present	47.5 %
40	24 (60%)	33 (82.5%)	27 (67.5%)	100 %

Upon screening for psychiatric morbidity, using urdu version of DASS, anxiety was found to be most frequently seen morbidity followed by stress and depression. 33 patients (82.5%) out of 40 had anxiety, 27 patients (67.5%) out of 40 had stress and 24 patients (60%) out of 40 had depression. The details of severity of all the three emotional states are presented in Table I. Majority of patients (37 out of 40) were suffering from comorbidity (having more than one illness out of these three disorders) while 03 patients had no psychiatric morbidity. (Table II) On endoscopic examination, 32 patients (80%) were found to have inflammatory changes while in 08 patients nothing abnormal was detected. The analysis of DASS scores in these two group show, that anxiety was predominant morbidity and was present in 27 (84 %) cases, while stress was present in 21 (65.6 %) cases and depression was found in 13(40.6 %) cases in the group having inflammation on endoscopy, while in the other group anxiety was found in 06(75%), stress in 06 (75%) & depression in 06(75%) cases. The statistical analysis of these two groups show no significant difference (Table III).

**TABLE III:
ENDOSCOPIC FINDINGS AND DEPRESSION,
ANXIETY AND STRESS (n = 40)**

Morbidity	Patients with inflammation on endoscopy (32Patients) (80%)	Patients without inflammation on endoscopy (08Patients) (20%)	P-value
Depression	19(59.4%)	05(62.5%)	0.872
Anxiety	27(84.4%)	06(75.0%)	0.533
Stress	21(65.6%)	06(75.0%)	0.613

DISCUSSION

The demographic pattern of our sample group showed that majority of the dyspeptic patients were females similar to that of Bennet et al.⁽²⁹⁾ Females seems to be more susceptible to develop anxiety however our sample was small and unless large sample studies are conducted, no definite comments can be made in this regard. These females were mostly young married ladies who were expected to perform actively at this stage of life but unfortunately seem to be relatively handicapped due to untreated gastrointestinal symptoms. Moreover majority of these patients are further burdened by the presence of psychiatric morbidity in the form of depression, anxiety or stress suggesting that psychiatric morbidity in patients of dyspepsia is quite prevalent in our culture, as it is present, elsewhere in other parts of world.

In our study almost half of the sample population had all the three psychiatric disorders suggesting that patients with dyspepsia are prone to develop multiple psychiatric problems and there is a strong association of psychiatric morbidity with dyspepsia.

Our study suggests that anxiety is predominantly present in cases of dyspepsia. This finding is supported by study of Pertti Aro et al⁽³⁰⁾ and that of T Tangen Haug⁽³¹⁾ but not with study of Xu ZI et al⁽³²⁾ who have reported depression as the significant morbidity in their sample group.

It is commonly perceived that patients with functional dyspepsia (with no inflammatory findings on endoscopy) have got strong association with stressors and psychiatric morbidity is commonly seen in these patients⁽⁷⁾⁽⁸⁾⁽⁹⁾.

On the other hand many studies⁽³³⁾⁽³⁴⁾⁽³⁵⁾⁽³⁶⁾⁽³⁷⁾ reports that psychiatric disorders are frequently seen in cases with peptic ulcer/ duodenal ulcer having inflammatory changes in upper GIT. Results of our study however suggests that depression, anxiety and stress are almost equally seen in patients with “organic dyspepsia”(with inflammation of mucosa on endoscopy) and in patients with functional dyspepsia

Considering the results of our study we should seriously consider psychological evaluation (and subsequent management) of all patients of dyspepsia whether it is organic or functional.

CONCLUSIONS

Emotional disturbances are frequently seen in patients with dyspepsia. Among the three negative emotional states measured in this study, anxiety was the most frequent, followed by stress and depression. Evaluation of anxiety in cases of dyspepsia will be helpful in the management of these case.

LIMITATIONS OF STUDY

It was a study with small sample size. Results of a larger sample size study would give a better idea of the magnitude of the problem. Since it was a hospital based study, a study carried out in the general population would reflect the severity of problem in community. It was the study of one centre, multicentre study would reflect the pattern of morbidity in different areas.

REFERENCES

1. Talley NJ, Vakil N (October 2005). "Guidelines for the management of dyspepsia". American. J. Gastroenterol.(2005) 100 (10): 2324–37.
2. Dino Vaira, John Holton, John Osborn, John Dowsett, Ian McNeil, Adrian Hatfield Use of endoscopy in patients with dyspepsia British Med journal (1989);299:237
3. Saad RJ, Chey WD. "Review article: current and

- emerging therapies for functional dyspepsia". *Alimentary. Pharmacology and Therapeutics* 2006 Aug 1;24(3):475-92.
4. Van Kerkhoven LA, van Rossum LG, van Oijen MG, Tan AC, Laheij RJ, Jansen JB (September 2006). "Upper gastrointestinal endoscopy does not reassure patients with functional dyspepsia". *Endoscopy* (2006) 38 (9): 879–85.
 5. Talley NJ, Fung LH, Gilligan IJ, McNeil D, Piper DW. Association of anxiety, neuroticism and depression in dyspepsia. *Gastroenterology* (1986) 90(4): 886-92
 6. T. Tangen Haug, A. Mykletum, A A Dahl. Are Anxiety and Depression Related to Gastrointestinal Symptoms in the General Population? *Scandinavian journal of Gastroenterology* (2002) 37 (3) : 294-8.
 7. Aro P, Talley NJ, Ronkainen J, Storskrubb T, Vieth M, Johansson SE, Bolling Sternevald, Anxiety is associated with uninvestigated and functional dyspepsia (Rome III criteria) in a Swedish population-based study. *Gastroenterology* (2009) ;137(1):94-100.
 8. A. Vishnar, R. Ghulam & R.K. Mittal. Non ulcer dyspepsia and its correlation with life stress, anxiety and depression. *Indian Journal of Psychiatry* (1999) 41 (4) :88-93
 9. Xu ZJ, Duan LP, Wang K, Xia ZW, Lin SR. Anxiety and depression related to the symptoms of gastroesophageal reflux disease. *Zhonghua Yi Xue Za Zhi.* (2005) 30;85(45):3210-5.
 10. Feldman M, Walker P, Green JL, Weingarden K. Life events stress and psychosocial factors in men with peptic ulcer disease. A multidimensional case-controlled study. *Gastroenterology* 1986, 91 (6):1370-9
 11. T. Tangen Haug, I. Wilhelmsen, A. Berstard, H. Ursin. Life Events and Stress in Patients with Functional Dyspepsia Compared with Patients with Duodenal Ulcer and Healthy Controls. *Scandinavian Journal of Gastroenterology* 199; 30 (6) : 524-30
 12. Hassan B, Abdel Hafeiz, Abdulaziz Al-Quorain, Ahmed Abdel Karim, Shuaa Al-Mangoor. The psychopathology of duodenal ulcer compared with functional dyspepsia: A case-control study. *The Saudi Journal of Gastroenterology* (1999) 5 (1) :18-22
 13. Sjodin I, Svedlund J, Dotevall G, Gilberg R. Symptom profiles in chronic peptic ulcer disease. *Scand J Gastroenterol* 1985;20:419-27.
 14. Piper DW, Ariotti D, Creig M, Brown R. Chronic duodenal ulcer and depression. *Scand J Gastroenterol* 1980;15:201-3.
 15. McIntosh JH, Nasiry RW, Frydman M, Waller SL, Piper DW. The personality pattern of patients with chronic peptic ulcer: a case control study. *Scand J Gastroenterol* 1983;18:945-50.
 16. Abdul Sattar, Mohammed Salih, Wasim Jafri. Burden of common mental disorders in patients with functional dyspepsia. *J Pak Med Assoc* 2010;71 (12):995-7.
 17. Khalid Mehmood, Zobia Hameed, Saleeta Shoukat. Predictors of depression in patients presenting with dyspeptic symptoms in a GI clinic. *J Ayub Med Coll Abbotabad* 2011;23(4):49-52
 18. Lovibond PF, Lovibond SH (1995) *Manual for the Depression Anxiety Stress Scales* 2nd ed. Sydney, Psychology Foundation. 1995a
 19. Andrew T. Gloster, Howard M. Rhoades, Diane Novy, Jens Klotsche et al. Psychometric Properties of the Depression Anxiety and Stress Scale-21 in Older Primary Care Patients. *Journal of Affective Disorders* October 2008;110 (3) :248-259,
 20. Timothy A. Brown, I. Bruce F., Chorpita. Psychometric properties of Depression Anxiety Stress Scale in clinical samples. *Behav. Res. Ther.* 1997;35(1):79-89
 21. John R Crawford, Julie D Henry. The Depression Anxiety Stress Scales (DASS): Normative data and latent structure in a large non-clinical sample. *British Journal of Clinical Psychology* (2003), 42, 111–31.
 22. K Nieuwenhuijsen, A G E M de Boer, J H A M Verbeek. The Depression Anxiety Stress Scales (DASS): detecting anxiety disorder and depression in employees absent from work because of mental health problems. *Occup Environ Med* 2003;60:i77-i82 doi:10.1136/oem.60.suppl_1.i77.
 23. Yasmin Farooqi and Maria Habib. Gender differences in Anxiety, Depression and Stress among survivors of suicide bombing. *Pakistan Journal of Social and Clinical Psychology* Dec 2010; 8 (2):145-153
 24. Andrew MJ, Baker RA, Kneebone AC, et al. Mood state as a predictor of neuropsychological deficits following cardiac surgery. *J PSYCHOSOM RES* June 2000 48 (6): 537-46
 25. Antony MM. Assessment and treatment of social phobia. *CAN J PSYCHIAT* Oct 1997 42 (8): 826-834
 26. Baker RA, Andrew MJ, Schrader G, et al. Preoperative depression and mortality in coronary artery bypass surgery: Preliminary findings. *AUST NZ J SURG* Mar 2001; 71 (3): 139-42
 27. Brown, T.A., Barlow, D.H. & Liebowitz, M.R.. The empirical basis of generalized anxiety disorder. *AMER J PSYCHIAT* 1994, 151 (9) :1272-1280.
 28. Devilly GJ. The psychological effects of a lifestyle management course on war veterans and their

- spouses J CLIN PSYCHOL Sep 2002 58 (9): 1119-1134
29. Bennett, E., Beurepaire J., Langeluddecke, P., Kellow, J. & Tennant, G. Life stress and non ulcer dyspepsia,. A case controls study JOURNAL OF PSYCHOSOMATIC RESEARCH (1991) 35, 579-590
30. Pertti Aro, Nicholas J telly, Jukka Rohnkaenin. Anxiety is associated with uninvestigated & functional dyspepsia in Swedish population based study GASTROENTEROLOGY (2009); 137 (1): 94-100
31. T Tangen Haug, A Mykletun, A A Dahl. Are Anxiety and Depression Related to Gastrointestinal Symptoms in the General Population? SCANDINAVIAN JOURNAL OF GASTROENTEROLOGY (2002) ; 37 (3) : 294-298
32. Xu ZJ, Duan LP, Wang K, Xia ZW, Lin SR. Anxiety and depression related to the symptoms of gastroesophageal reflux disease. ZHONGHUAYI XUE ZA ZHI. 2005 Nov 30;85(45):3210-5.
33. Sjodin I. Svedlund J, Dotevall G, Gilberg R. Symptom profiles in chronic peptic ulcer disease. Scand J Gastroenterol (1985) ;20:419-27.
34. Creed F, Craig T, Farmer R. Functional abdominal pain, psychiatric illness, and life events. Gut (1988);29:235-42.
35. Piper DW, Ariotti D, Creig M, Brown R. Chronic duodenal ulcer and depression. Scand J Gastroenterol (1980),15:201-3.
36. Piper DW, Creig M, Thomas J, Shinnors J. Personality pattern of patients with chronic gastric ulcer. Gastroenterol (1977);73:444-6.
37. McIntosh JH, Nasiry RW, Frydman M, Waller SL, Piper DW. The personality pattern of patients with chronic peptic ulcer: a case control study. Scand J Gastroenterol (1983);18:945-50.



AUTHOR AFFILIATION:

Dr. Syed Iftikhar Haider

Assistant Professor, Department of Medicine
Baqai Medical University Karachi, Sindh-Pakistan.

Dr. Inam Rasool

Professor, Department of Psychiatry
Baqai Medical University Karachi, Sindh-Pakistan.

Dr. Sohail Ahmed (*Corresponding Author*)

Associate Professor, Department of Psychiatry
Karachi Medical & Dental College/
Abbasi Shaheed Hospital Karachi, Sindh-Pakistan.

Ms. Samina Hussein

Clinical Psychologist Dept. of Psychiatry
Baqai Medical University Karachi, Sindh-Pakistan.

Dr. Jamil Hussein

Professor, Department of Medicine
Baqai Medical University Karachi, Sindh-Pakistan.

Dr. Munir Hamirani

Professor, Department of Psychiatry
Karachi Medical & Dental College
Abbasi Shaheed Hospital Karachi, Sindh-Pakistan.