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## Study of anxiety & depressive disorders among the patients with non-ulcer dyspepsia

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### Abstract

**Background:** Non-ulcer dyspepsia is associated with anxiety & depressive disorder.

**Objectives:** To observe the anxiety & depressive disorder among the patients of non-ulcer dyspepsia.

**Study design:** Cross sectional study.

**Study settings and period:** Department of Medicine of Dhaka Medical Collage Hospital, Dhaka and attending the chambers of medicine specialists' of Dhaka metropolitan from January, 2016 to July, 2016.

**Subjects:** 200 patients suffering from non-ulcer dyspepsia.

**Methods:** After taking full history and requiring investigations patients who fulfill inclusion criteria and exclusion criteria of this study were included in the study. Data collection was performed in a prefixed questionnaire form and data collection sheet and with the help of Hamilton depression rating scale for the assessment of depressive illness and Hamilton anxiety rating scale for the assessment of anxiety disorder after taken informed consent of the patient.

**Results:** Most of the patients (52%) suffering from non-ulcer dyspepsia were free from anxiety and depression. Among the remaining patients 24% patients were suffering from anxiety, 10% patients were suffering from depression and 14% patients were suffering from the both. Among the patients who were suffering from these psychiatric symptoms, maximum (79%) were female and the rest (21%) were male. Majority of the patients (54%) were younger (18-25 years) age group.

**Conclusion:** There is a significant association between non-ulcer dyspepsia and psychiatric symptoms, namely depression and anxiety symptoms. Among the patients who are suffering from these symptoms, maximum are female. Younger age group suffers more.

**Keywords:** Non-ulcer dyspepsia, depression, anxiety

### Introduction

The majority of patients with chronic or recurrent gastrointestinal symptoms in our clinical practice lack a structural or biochemical cause that can be determined by standard diagnostic procedures. These patients are labeled as having a functional gastrointestinal disorder [1]. Functional dyspepsia is the second most common functional gastrointestinal disorder after irritable bowel syndrome [2]. Patients can present with a spectrum of symptoms including upper abdominal pain/discomfort, fullness, early satiety, bloating and nausea<sup>2</sup>. These patients have no structural abnormality as an explanation for their symptoms.

There are no definite etiological factors for NUD numerous studies correlate different aspects with NUD [3]. A number of factors like use of non-steroidal anti-inflammatory drugs, coffee, tea, alcohol, cigarette smoking and diet have been proposed as risk factors for NUD. Some studies have correlated H. pylori and NUD. Various studies, however, established a definite correlation between psychological factors like life stress, anxiety and depression with NUD [3]. The high level of psychological morbidity in NUD patients (57% to 100%) demonstrates a diagnosable psychiatric disorder [3]. Similarly, psychometric assessment indicate that the level of psychological symptoms in NUD patients significantly exceed to those in healthy community samples.

My aim is to study anxiety & depressive disorder of non-ulcer dyspeptic patient in our community so that proper treatment can improve their quality of life and reduce the unnecessary harassment about medical help seeking attitude.

## Objectives

### General

- To observe the anxiety & depressive disorder among the patients of non-ulcer dyspepsia.

### Specific

- To find out the percentage of depressive illness in patients of non-ulcer dyspepsia.
- To find out the percentage of anxiety disorder in patients of non-ulcer dyspepsia.
- To develop a socio demographic data between these two categories of patients.

## Material and Methods

**Type of study:** It was a descriptive cross-sectional study.

**Place of study:** It was carried out in the medicine units of Dhaka Medical College Hospital and specialists' chambers of Dhaka.

**Study population:** The patients with non-ulcer dyspepsia admitted in medicine unit of Dhaka Medical College Hospital, Dhaka and attending the chambers of medicine specialists' of Dhaka metropolitan.

**Duration of study:** It was carried out through one year from January, 2016 to July, 2016.

**Sampling method:** It was a purposive sampling method.

### Inclusion criteria

- Diagnosed cases of non-ulcer dyspepsia
- Age 18-40 years

### Exclusion criteria

- Patients with other diseases causing dyspepsia
- Patients with symptoms of lower gastrointestinal tract
- Any diagnosed case of irritable bowel syndrome
- Patients with non-ulcer dyspepsia with other psychiatric illness
- Age <18 years and >40 years

### Following investigations are to be done for diagnosis of non-ulcer dyspepsia

- Complete blood counts.
- Liver function tests
- Pancreatic function test
- Renal function tests
- Urine R/M/E
- ECG
- Plain X-ray abdomen P/A view.
- USG of whole abdomen.
- Endoscopy of upper GIT
- CT scan of whole abdomen (selective patients)

## Results and Observations

The study enrolled total 200 cases over a period of one year. They were suffering from non-ulcer dyspepsia.

Among 200 patients, 124 patients were female (62%) and 76 patients were male (38%) (Figure-1). The male female ratio was about 2:3.

Age of presentation was varying range from 20 to 40 years and mean age was  $28.58 \pm 7.12$  years. Most of the patients

(46%) were 18-25 years group followed by 22%, 18% and 14% of 36-40 years group, 26-30 years group and 31-35 years group respectively (Table-1).

In the present study, majority of the patients (60%) came from the specialists' chambers and the rest (40%) from the hospital (Figure-2).

Out of all respondents of the study group, greater portion (94%) were muslims followed by hindu (6%) (Table-2). There were no patients of other religions.

In this study, majority (60%) of the patients was married patients and the rest were unmarried (40%) (Table-3).

Here majority (90%) of patients were from middle class family and few (10%) from lower class family (Table-4). There was no patient from upper class family.

In this study, most of the patients (92%) lived in urban area whereas few (8%) patients lived in rural area (Figure- 3).

In case of occupation, majority (38%) of patients were students followed by housewives (34%). Among the rest, businessmen were 14%, service holders were 4% and others were 10% (Table-5).

Interestingly, very few patients (8%) were smokers and the rest (92%) were non-smokers in this study (Figure-4).

Majority of the patients (40%) had epigastric burning sensation followed by epigastric pain (36%), early satiety (14%) and postprandial fullness (10%) (Table-6). Out of them, maximum patients (60%) had two symptoms, 16% patient had only one symptom, 14% patients had three symptoms and 10% patients had all four symptoms (Table-7). Here 18-25 years age group patient had suffering from more symptoms followed by 36-40 years age group (Table-8).

Psychiatric evaluation in this study revealed that most patients (52%) suffering from non-ulcer dyspepsia were free from anxiety and depression. Among the remaining patients 24% patients were suffering from anxiety, 10% patients were suffering from depression and 14% patients were suffering from the both (Table-9). All patients who were suffering from anxiety disorder or depressive illness were found mild in nature. Anxiety score through Hamilton anxiety rating scale (HAM-A) was found  $15.26 \pm 1.7$  and depression score through Hamilton depression rating scale (HDRS) was found  $11.25 \pm 2.5$ .

Among the patients who were suffering from psychiatric disorders, maximum (79%) were female and the rest (21%) were male (Table-10). Majority of the patients (54%) were younger (18-25 years) age group (Table-11).

**Table 1:** Distribution of the patients according to age (n=200)

| Age of the patients | Frequency | Percentage |
|---------------------|-----------|------------|
| 18-25 years         | 92        | 46         |
| 26-30 years         | 36        | 18         |
| 31-35 years         | 28        | 14         |
| 36-40 years         | 44        | 22         |

**Table 2:** Distribution of the patients according to religion (n=200)

| Religion of the patients | Frequency | percentage |
|--------------------------|-----------|------------|
| Muslim                   | 188       | 94         |
| Sanatan/Hindu            | 12        | 6          |
| Christian                | 0         | 0          |
| Buddhist                 | 0         | 0          |

**Table 3:** Distribution of the patients according to marital status (n=200)

| Marital status of the patients | Frequency | Percentage |
|--------------------------------|-----------|------------|
| Unmarried                      | 80        | 40         |
| Married                        | 120       | 60         |
| Divorced                       | 0         | 0          |
| Widowed                        | 0         | 0          |
| Separated                      | 0         | 0          |

**Table 4:** Distribution of the patients according to socio-economic condition (n=200)

| Socio-economic conditions of the patients | Frequency | Percentage |
|---|-----------|------------|
| Upper class                               | 0         | 0          |
| Middle class                              | 180       | 90         |
| Lower class                               | 20        | 10         |

**Table 5:** Distribution of the patients according to their occupations (n=200)

| Occupation of the patients | Frequency | Percentage |
|----------------------------|-----------|------------|
| Students                   | 76        | 38         |
| Housewives                 | 68        | 34         |
| Businessmen                | 28        | 14         |
| Service holders            | 8         | 4          |
| Others                     | 20        | 10         |
| Jobless                    | 0         | 0          |

**Table 6:** Distribution of the patients according to their symptoms (n=200)

| Symptoms of the patient      | Frequency | Percentage |
|------------------------------|-----------|------------|
| Epigastric pain              | 72        | 36         |
| Epigastric burning sensation | 80        | 40         |
| Postprandial fullness        | 20        | 10         |
| Early satiation              | 28        | 14         |

**Table 7:** Distribution of the patients according to frequency of symptoms (n=200)

| Frequency of symptoms | Frequency | Percentage |
|-----------------------|-----------|------------|
| 1 symptoms            | 32        | 16         |
| 2 symptoms            | 120       | 60         |
| 3 symptoms            | 28        | 14         |
| 4 symptoms            |           | 10         |

**Table 8:** Cross tabulation of age grouping and frequency of symptoms of the patients (n=200)

| Age grouping of the patients | Frequency of symptoms of the patients |            |            |            | Total |
|------------------------------|---------------------------------------|------------|------------|------------|-------|
|                              | 1 symptom                             | 2 symptoms | 3 symptoms | 4 symptoms |       |
| 18-25 years                  | 16                                    | 48         | 8          | 20         | 92    |
| 26-30 years                  | 4                                     | 20         | 12         | 0          | 36    |
| 31-35 years                  | 4                                     | 24         | 0          | 0          | 28    |
| 36-40 years                  | 8                                     | 28         | 8          | 0          | 44    |

**Table 9:** Distribution of the patients according to their psychiatric evaluation (n=200)

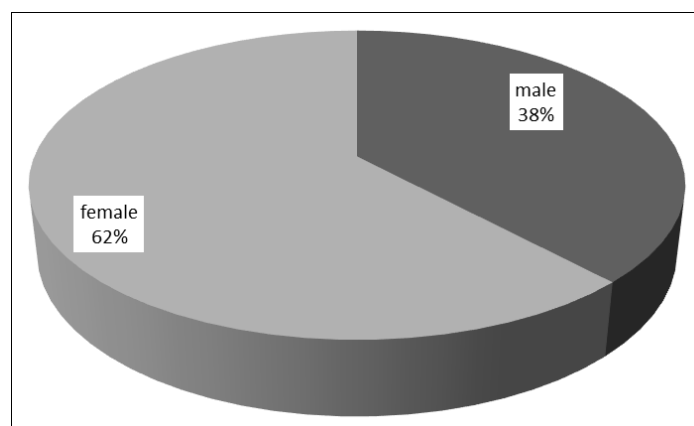
| Psychiatric evaluation of the patients | Frequency | Percentage |
|--|-----------|------------|
| Depression                             | 20        | 10         |
| Anxiety                                | 48        | 24         |
| Both anxiety and depression            | 28        | 14         |
| Normal                                 | 104       | 52         |

**Table-10:** Cross tabulation of sex and psychiatric illness of the patients (n=200)

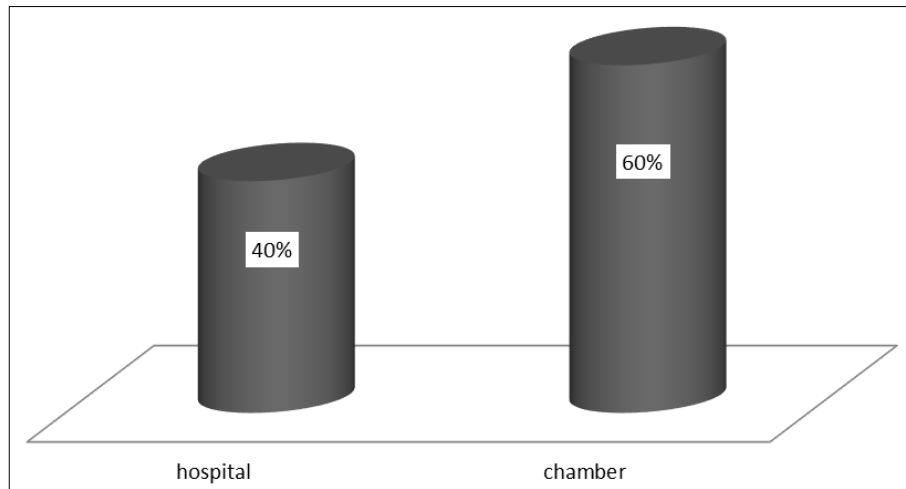
| Sex of the patients | Psychiatric illness of the patients |         |              |                | Grand total | Percentage of illness |
|---------------------|-------------------------------------|---------|--------------|----------------|-------------|-----------------------|
|                     | Depression                          | Anxiety | Both illness | Total patients |             |                       |
| Male                | 0                                   | 8       | 12           | 20             | 56          | 76                    |
| Female              | 20                                  | 40      | 16           | 76             | 48          | 124                   |

**Table 11:** Cross tabulation of age and psychiatric illness of the patients (n=200)

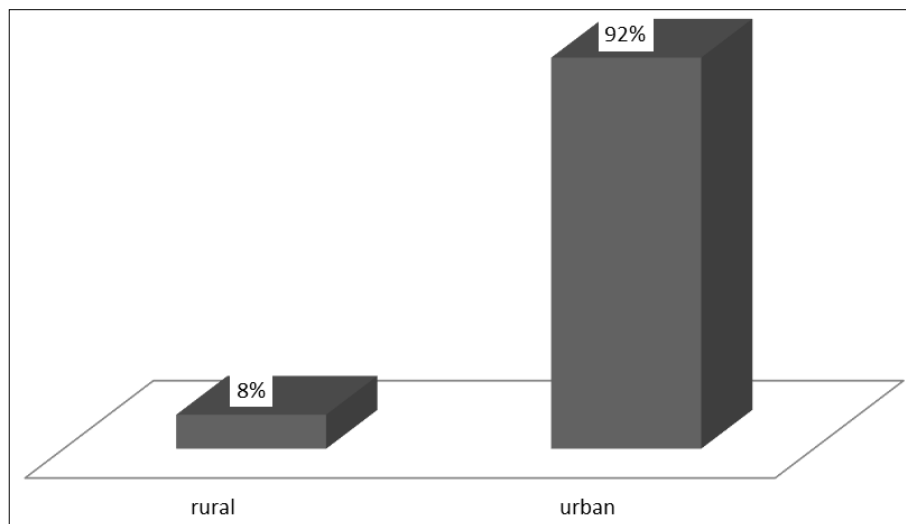
| Age of the patients | Psychiatric illness of the patients |         |              |                | Grand total |    |
|---------------------|-------------------------------------|---------|--------------|----------------|-------------|----|
|                     | Depression                          | Anxiety | Both illness | Total patients |             |    |
| 18-25 years         | 16                                  | 20      | 16           | 52             | 40          | 92 |
| 26-30 years         | 0                                   | 4       | 12           | 16             | 20          | 36 |
| 31-35 years         | 4                                   | 12      | 0            | 16             | 12          | 28 |
| 36-40 years         | 0                                   | 12      | 0            | 12             | 32          | 44 |



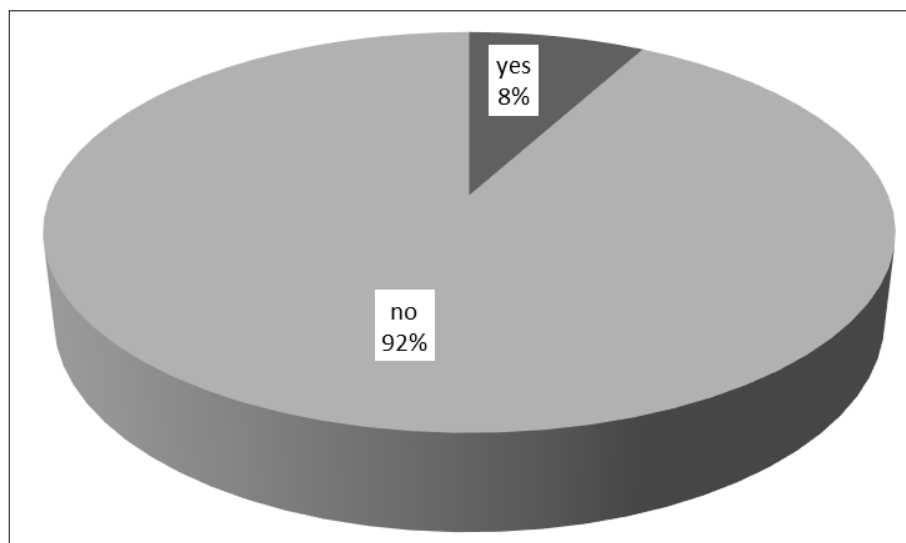
**Fig 1:** Pie chart of sex of the patients



**Fig 2:** Bar diagram of source of the patients



**Fig 3:** Bar diagram of address of the patients



**Fig 4:** Pie chart of smoking habit of the patients

### Discussion

This study enrolled total 200 cases over a period of one year. They were suffering from non-ulcer dyspepsia. Patients over 40 years of age were not included because non-ulcer dyspepsia is common within this age and in older dyspeptic patients organic causes are common. Patients with

other systemic illness with dyspepsia were excluded because of the fact that these illnesses might predispose patient to anxiety and depression. So ultimately we obtained pure cases of non ulcer dyspepsia for psychological evaluation in our study.

In this study majority patients were female and the rest were

male. Similar result was observed by Bennett *et al.* Vishnar A *et al.* [3] and Hafeiz HB *et al.* Females are more prone to functional disorders. Among the patients, majority were younger age group and Vishnar A *et al.* [3] found the similar results.

In the present study, most of the patients came from the specialists' chambers. As this is a chronic disease and symptoms are less severe without any emergency, doctors as well as patients usually try to avoid hospitalization. This saves their overall cost and time. Most of the patients were muslims. As maximum people are muslims in this country, it is natural that majority of the study population will be muslim.

In this study, majority of the patients was married followed by unmarried. Similar result was found by Hafeiz HB *et al.* He also found some divorced and widowed patients but this kind of patients were absent from my study. Here maximum patients were from middle class family and few from lower class family but no one from upper class family. This may be due to most of our people comes from middle class family and study population also represents this.

In this study, greater portion of the patients lived in urban area whereas few patients lived in rural area. As the study was done in Dhaka Medical College Hospital situated in metropolitan area and specialists' chamber of the same area, most patients of non-ulcer dyspepsia came from urban areas. People from rural area usually do not come with mild to moderate symptoms rather they took medicine from local pharmacy. Here maximum subjects were students followed by housewives. Among the rest, businessmen were next. Interestingly, very few patients were smokers and the rest were non-smokers in this study. This is may be due to maximum patients were females as well as greater portion were students followed by housewives.

Majority of the patients had epigastric burning sensation followed by epigastric pain, early satiety and postprandial fullness. Out of them, most of the patients had two symptoms followed by only one symptom, three symptoms and all four symptoms. Here younger age group patients suffered from more symptoms. Epigastric burning sensation is the main symptom of non-ulcer dyspepsia and it is frequently associated with epigastric pain.

Psychiatric evaluation in this study revealed that most patients (52%) suffering from non-ulcer dyspepsia were free from anxiety and depression and the remaining (48%) are suffering from psychiatric illness. Among the remaining patients 24% patients were suffering from anxiety, 10% patients were suffering from depression and 14% patients were suffering from the both. All patients who were suffering from anxiety or depression were found mild in nature. Almost similar report was found by Hafeiz HB *et al.*, Creed *et al.* and David *et al.* Tally *et al.* and Bennett *et al.* proved that essential dyspepsia patients had significant anxiety levels. Magni *et al.* also found that 87% of patients with dyspepsia had anxiety disorder. Langeluddecke *et al.* had similar observations. Vishnar *et al.* [3] showed that none of the patients had moderate or severe depression clinically on HRSD. Their findings were similar with findings of Tally *et al.* who also found higher but insignificant depression score in their patients. In contrast, Bennett *et al.* [11] and Kok *et al.* found significant depression in their patients. It is definite that there is a positive relation between non-ulcer dyspepsia and psychiatric illness, mainly anxiety and depression. But the percentage showed in

different studies varies. It's probably because different rating scales were used by different investigators. In this study another cause of less psychiatric morbidity may be due to over diagnosis of non-ulcer dyspepsia.

Among the patients who were suffering from psychiatric illness, most of the patients were female. Majority of the patients was younger age group. Females and younger patients suffer more from psychiatric illness. The cause may be due to maximum study population in these groups.

## Conclusion

The result of the present study shows a significant association between non-ulcer dyspepsia and a depression and anxiety. In this study, most patients suffering from non-ulcer dyspepsia were free from anxiety and depression. Among the remaining patients most patients were suffering from anxiety followed by both illness and then depression. All patients who were suffering from anxiety or depression were found mild in nature. Among the patients who were suffering from psychiatric illness, maximum were female and the rest were male. Majority of the patients were younger age group.

## Conflict of Interest

Not available

## Financial Support

Not available

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