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# The frequency of the psychiatric symptoms in patients with functional dyspepsia

Adil Jafaar Abdul Sahib, Kasim Obaid Hussein, Dergham Majeed, Hameed,Emad Salih, Haneen Kareem*[1]

## Abstract

The role of psychiatric symptomatic conduct of patients with FD has not been clearly shaped. In this study the role of psychiatric symptoms was evaluated in those patients. One hundred subjects [50 patients with FD (29 women, 21 men)], and [50 healthy individuals (27 women, 23 men)] in Al-Hussain teaching hospital in Samawa city were evaluated. The two groups were almost similar in regard to major demographic variables. Psychiatric symptoms were measured by “SCL-90-R” questionnaire. FD patients had worse psychiatric difficulties than healthy subjects. patients with FD reported more mean scores on psychiatric symptoms than the healthy subjects (somatization 1.87 ±0.74.*vs* 0.95 ± 0.50),(OCD1.31±0.62 *vs* 0.86± 0.55),(interpersonal sensitivity 1.08 ± 0.70 *vs* 0.76 ± 0.54),(depression 1.52±0.86 *vs* 0.91± 50),(anxiety1.53 ±0.59 *vs* 0.75 ±0.48), (hostility 1.41± 0.72 *vs* 0.69 ±0.56),(phobic anxiety 0.92 ± 0.73 vs 0.58 ±0.75), (paranoid ideation 1.19 ±0.78 *vs* 0.74 ± 0.56) , (psychoticism 0.76± 0.69 *vs* 0.40±0.45) and the total score of mental symptoms.1.29±0.52 *vs*0.74 ±0.37). All differences were very significant in statistical view with the exception of four measures, where the differences were statistically significant but to a lesser degree، namely the measures of interpersonal sensitivity, paranoid ideation, psychoticism. In conclusion, the results show that FD patients experienced more psychological symptoms than healthy subjects, so both physicians and psychiatrists should be aware about this coexistence when they manage such cases.

**Keywords:** Functional dyspepsia, psychiatric symptoms, gastrointestinal

*Corresponding author email: adeljafer8@gmail.com
[1]Al Hussein Teaching Hospital in Samawa
[2]College of medicine, Al-Muthanna university
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## Introduction

Stomach upset or dyspepsia denotes to annoyance or pain or uncomfortableness centered in the upper belly [1]. There is a broad range of dyspeptic symptoms may be outlined as those originating from the upper gastrointestinal tract out of colonic function [2] .

Dyspepsia is one of the most important reasons that call for medical assistance and therefore leads to increased medical costs.

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It also affects individuals and society due to an increase in absenteeism and due to deterioration in the quality of life [3] .

The term FD is used when the GI endoscopy fails to find an organic cause that explains the symptoms.

Dyspepsia is widespread with prevalence rates estimated at 26% - 41% [4]. It has been revealed that there are cases of dyspepsia at the same time with many mental diseases, particularly mood and anxiety disorder [5]. There is no research is available in our hands regarding the role of psychological factors in the Iraqi population with FD.

In this study the role of psychiatric symptoms was evaluated in patients with FD and in the healthy individuals. The purpose of this research is to detect the presence of psychiatric symptoms in dyspeptic patients, and to compare them with those of the healthy individuals. We compared FD patients and the healthy individuals only in one dimension, this dimension includes the hidden psychiatric symptoms in nine major aspects including (“depression”, “anxiety”, “somatization”, “interpersonal sensitivity”, “OCD”, “paranoid ideation”, “hostility”, “phobic anxiety”, “psychoticism”).

**Methods and Patients**

Fifty subjects with FD (29 women, 21 men), and 50 healthy individuals, (27 women, 23men) were evaluated. The number of women and men in both groups is roughly equal. Psychiatric symptoms were evaluated by the “(SCL-90-R) questionnaire”. The total scores are considered to measure the overall psychiatric symptoms. The Arabic version of the “SCL-90-R” was used in this study [6]. The adult patients with FD were recruited from the out-patient clinic in Al-Hussain teaching hospital from July to September 2019. “ Laboratory Biochemical tests”, “ultrasonography”, and “endoscopy” were performed to exclude other GI illnesses such as “peptic ulcer diseases” ,”gastroesoghageal reflux”, “disease of biliary tract" , “enteric erosions”, and” gastric cancer” ,also patients with previous history of” peptic ulcer” or surgery for stomach were rolled out of the study . Criteria of Rome 3 were used to recognize patients with FD [7]. The whole persons of control group show no present or past history of mental or GI diseases. The control group was chosen to almost harmonize the patients group with regard to some demographic variables including age, gender, education marital status. Residency and smoking.

A written informed consent was obtained from all subjects. All 100 subjects were asked to cooperate in the Semi-structure interview which includes the followings:

1- Sociodemographic data.

2-” SCL-90-R Questionnaire”. It is a self-assessment list, consist of nine sub measures for “depression”,anxiety,“obsessive-compulsiveness”,“somatization”,“interpersonal sensitiveness”, “hostility”, “phobic anxiety” ,”paranoid ideation”, and “psychoticism .”

This question was completed by persons in about 10-15 minutes. Those persons answer 90 sections using a 5-point measure to gauge the range of the listed symptoms during the last

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seven days. There are seven extra interrogations in "SCL-90-R". Those additional interrogations are worthy for judging clinical symptoms of answering individuals.

Raw scores are estimated by splitting the total of scores of any given sub measure by the number of questions in this sub measure. The SCL-90-R also has three global indexes: the most important index is (GSI), this index has been designed to measures the depth of the individual's psychiatric troubles, the Positive Symptom Total (PST) enumerates the full number of interrogations ranked above one point; and the Positive Symptoms Distress Index (PSDI) is estimated by splitting the total of all section scores by the PST[8]. In this study we only reported "GSI" and raw scores of "SCL-90-R "sub-measures.

Based on the study of Noorbala and his colleagues [9], we used the total score of higher than or equal to 63 or cut off raw score of 0.7 for "GSI". Therefore, those scoring 0.7 and above were designated as possible cases of mental disorder

The two groups were compared in psychiatric problems variables. $X^2$ test and t- test were used to measure the statistical significance of the presence of psychiatric symptoms as one of the differences between the patient group and the healthy group. $X^2$ test was also used to ensure that the two groups were fairly similar in the main demographic data.

Confidence interval was set at 95%, while a P - value of less than 0.05 was considered significant in statistical view.

**Results**

**Table 1.**

Social, demographic Characteristics of control and patient groups

| Variables | Groups | Control group | | FD group | | X2 | Df. | p. value | S |
|---|---|---|---|---|---|---|---|---|---|
| | | F | % | F | % | | | | |
| Age groups | >25 | 19 | 38 | 13 | 26 | 2.133 | 4 | 0.711 | N.S |
| | 26 – 35 | 21 | 42 | 23 | 46 | | | | |
| | 36 - 46 | 2 | 4 | 4 | 8 | | | | |
| | 46 - 56 | 7 | 14 | 9 | 18 | | | | |
| | 56< | 1 | 2 | 1 | 2 | | | | |
| | Total | 50 | 100 | 50 | 100 | | | | |
| Control (Mean = 31.50 SD =) 11.016 Study ( mean= 33.640 SD=11.240 | | | | | | | | | |
| Gender | Male | 23 | 46 | 21 | 42 | 0.162 | 1 | 0.687 | N.S |
| | Female | 27 | 54 | 29 | 58 | | | | |
| | Total | 50 | 100 | 50 | 100 | | | | |
| Educational Level | illiterate | 8 | 16 | 9 | 18 | 1.585 | 3 | 0.663 | N.S |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Primary | 5 | 10 | 9 | 18 | | | | |
| | secondary | 11 | 22 | 9 | 18 | | | | |
| | college | 26 | 52 | 23 | 46 | | | | |
| | Total | 50 | 100 | 50 | 100 | | | | |
| Marital status | Married | 29 | 58 | 35 | 70 | 3.047 | 3 | 0.384 | N.S |
| | Single | 20 | 40 | 13 | 26 | | | | |
| | Divorced | 0 | 0 | 1 | 2 | | | | |
| | Widow | 1 | 2 | 1 | 2 | | | | |
| | Total | 50 | 100 | 50 | 100 | | | | |
| Residency | urban | 24 | 48 | 25 | 50 | 0.054 | 1 | 0.832 | N.S |
| | rural | 26 | 52 | 25 | 50 | | | | |
| Smoking | smoking | 9 | 18 | 7 | 14 | 0.298 | 1 | 0.786 | N.S |
| | no smoking | 41 | 82 | 43 | 86 | | | | |

F=Frequency, %= Percent N.S=non-significant

The mean age of control group and patients with FD was 31.5 ± 11.01 and 33.6 ±11.24 respectively (p=0.71), it is not statistically significant. Regarding the educational level, 8 (16 %) and 9 (18 %) were illiterate respectively, while 26(52%) and 23(46%) were graduated from collage respectively (p=0.66), not significant statistically.

There was no significant difference between the two groups regarding the gender (p=0.68), marital status (p=0.38), residency (p=83) and smoking (p=0.78).

**Table 2.**

Comparison between number and percentage of positive and negative cases (and the mean of GSI) in FD group and health group

| FD group | No: | % | Control group | No: | % |
|---|---|---|---|---|---|
| Positive cases | 47 | 94 | Positive cases | 22 | 44 |
| Negative cases | 3 | 6 | Negative cases | 28 | 56 |
| GSI: STUDY group (mean =1.321 SD= 0.534) Control group ( mean = 0.754 SD = 0.372) | | | | | |

T-test: 6.360 DF: 98 P.value: 0.000 S.S

Table 2 shows the comparison between the number and percentage of those with mental problems in patients and healthy groups, also shows the comparison in the mean of GSI between patients and healthy groups. The results of t-test show significant disturbed psychological status in FD group.

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**Table 3.**

Psychiatric profile of healthy and FD groups

| variables | FD group Mean ± SD | Healthy group Mean ± SD | |
|---|---|---|---|
| Physical symptoms | 1.8728±0.7416 | 0.954± 0.5099 | P 0.00 |
| Obsessive compulsive | 0.317±0.628 | 0.864±0.559 | P: 0.00 |
| Interpersonal sensitivity | 1.082±0.706 | 0.762±0.540 | P: 0.011 |
| Depression | 1.525±0.863 | 0.910±0.501 | P: 0.000 |
| Anxiety | 1.530±0. 59 | 0.758±0.484 | P: 0.000 |
| Hostility | 1.419±0.723 | 0.698±0.565 | P: 0.00 |
| Phobic anxiety | 0.921±0.731 | 0.581±0.574 | P: 0.000 |
| Paranoid ideation | 1.192±0.783 | 0.749±0.565 | P: 0.002 |
| psychoses | 0.766±0.698 | 0.400±0.450 | P: 0.002 |
| Total scores | 1.28±0.52 | 0.74±0.37 | P: 0.00 |

Table 3 shows the psychiatric profile of FD group and healthy group in the first 9 sub scales of" SCL-90". It shows the mean raw scores of the two groups on "SCL-90 ."

In comparing with the controls, the FD patients had significantly higher mean total score of "SCL-90". The table also shows that FD patients had high mean in the first 9 sub sales of the" SCL-90", and it is significantly higher than the mean in control group .

**Discussion**

Table 1 shows that both groups are almost identical in regard to the main demographic variables, including age, gender, marital status, education, residency and smoking.

The results, as shown in Table 2 and 3, indicated that psychiatric symptoms in the dyspepsia group were more than in the healthy group. The result is corresponding to that of "Talley et al", who reported that patients with dyspepsia were more likely to be "psychoneurotic", "nervous", and "depressed", while the healthy subjects in their study showed few psychiatric symptoms [10]. The result is also comparable to that of "Hasin DS, et al" [11] and "Carter RM, et al"[12], who covered that comorbidity between psychiatric disorders and dyspepsia is common, actually they found that anxiety and depression were largely associated with dyspepsia . Our study found that patients with dyspepsia recorded high rates of psychological symptoms, and these rates were more than healthy sample rates.

In this study, the symptoms of "somatization", "depression"," OCD", "anxiety", "phobic anxiety" and "hostility "were statistically more significant than other psychiatric symptoms.

These results are more or less similar to those of Faramarz et al, who conducted a study seven years ago and he found that psychiatric symptoms are more severe in patients with dyspepsia than those in the control sample, the psychiatric symptoms included "depression", "anxiety", "OCD", "interpersonal sensitivity", "psychoticism"," hostility', and total score of mental features [13].

Some support came from a study of Nakao H, et al, who found that patients with functional dyspepsia were suffering from great distress symptoms and showed high degrees along "StateTrait Anxiety list" scores [14].

Our results also correspond to that of "Michael P, et al". Who compared dyspeptic patients with healthy control, and they set up a desirable more eminent score on all "SCL-90 –R "scales in patients group [15].

"Michael P, et al" also found that patients with FD had showed very strong correlations between symptoms of FD and symptoms of somatization, while the correlations was moderately strong between dyspepsia and symptoms of "phobic anxiety" and "anxiety" scales, their study concluded that dyspeptic patients in hospitals have both heightened symptomatology and heightened psychiatric suffering.

"Walker EA, et al", found that patients with two GI features experienced high lifespan rates of "depression", "panic" and "agoraphobia", the rate of these disorders was higher in people with unexplained GI symptoms than the rate in people without GI symptoms [16], also they found high rates of mood illnesses and anxiety illnesses in patients with medically unexplained GI symptoms.

Because of several limitations in this study, generalization of the results should be made with caution. The study was a transverse study, so not answer questions about causal relationships. Another weakness in our study is related to a small sampling in one hospital, because of this we suggest the need for a study to be done in more than one hospital, and to include a much larger number of participants in different geographic areas.

**Conclusion**

The show study exposed that psychiatric symptoms are striking in patients with FD and should be addressed.

Whether psychiatric morbidity and dyspepsia are two distinct cases or simply different manifestations of one chronic condition, the accompanying psychiatric state continues to justify the need for psychological treatment for dyspeptic patients.

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