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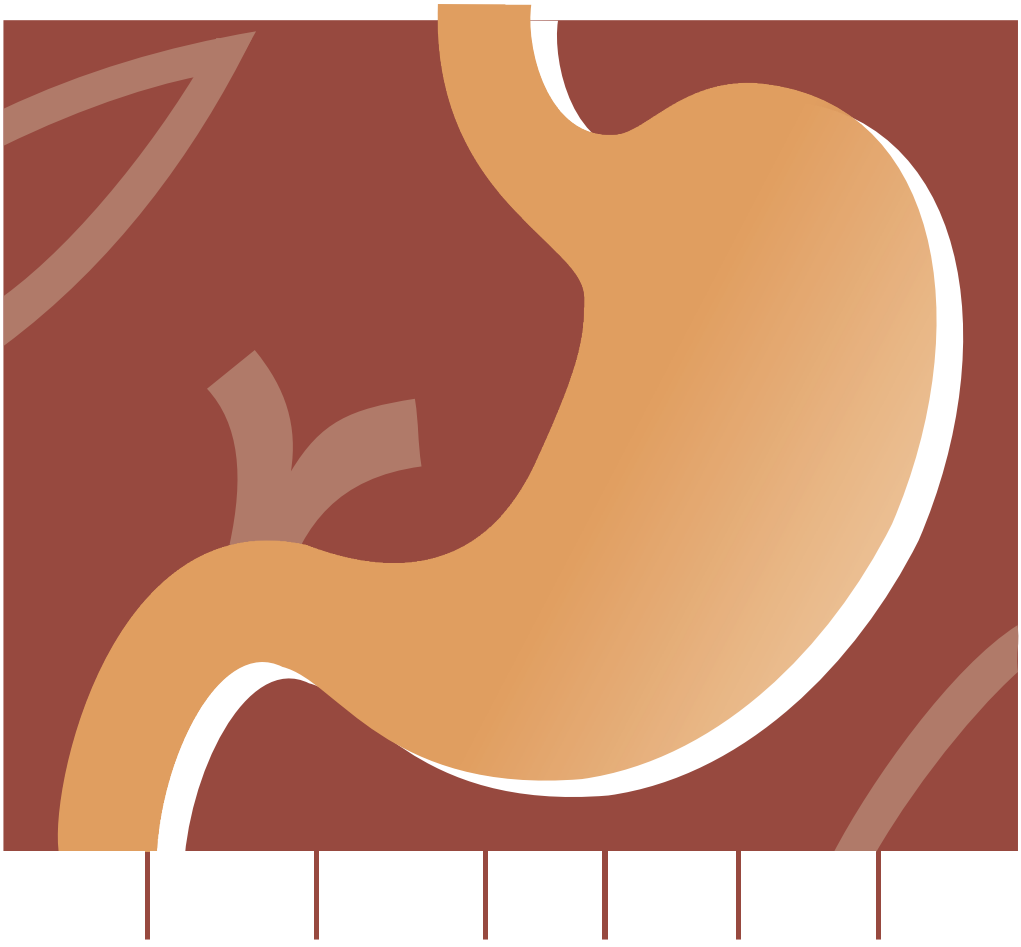

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Original Article

Association of Help-seeking Behavior with Depression and Anxiety Disorders among Gastroenterological Patients in Saudi Arabia

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ABSTRACT

Background/Aims: There is a high prevalence of depression and anxiety disorders among gastroenterological outpatients. Relatively few studies have been done on the help-seeking behavior among those who suffer from gastrointestinal symptoms with or without psychiatric disorders. We aimed to characterize the help-seeking behavior of gastroenterological outpatients and to evaluate if this behavior is linked to the presence of depression and anxiety. **Patients and Methods:** A cross-sectional study was carried out in gastroenterology clinics in four hospitals in Riyadh between February and September 2013. A self-administrated questionnaire was developed and administered to patients. Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder (GAD-7) questionnaires were used to diagnose depression and anxiety, respectively. **Results:** A total of 440 patients completed the study questionnaire. The average age was 36.0 ± 12.8 years and 69% of the patients were males. Complaints included abdominal pain (58%), heartburn (29%), diarrhea or constipation (25%), appetite or weight changes (22%), and nausea or vomiting (16%). Depression was diagnosed in 36%, while anxiety was diagnosed in 28% of the patients. The first intervention was use of medications (68%) and undergoing endoscopy (16%), while few patients initially used herbs or Islamic incantation (7.5%). This first intervention was done primarily (59%) in private sector hospitals rather than government sector hospitals (36%). The rates of depression and anxiety in our patients were higher among those who suffered from multiple complaints for longer durations and with less satisfaction with the offered services. **Conclusion:** Depression and anxiety are common comorbidities in gastroenterological outpatient population, especially those who have a chronic course of multiple gastrointestinal complaints.

Key Words: Anxiety, depression, gastroenterological, help-seeking behavior, psychiatric disorders, Saudi Arabia

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Illness behavior is the behavior undertaken by an individual who feels ill to relieve that experience or to better describe the meaning of the illness experience.[1] Therefore, those who experience physical or mental symptoms may seek help from the conventional healthcare system or use complementary or alternative medicine, while others may decide to dismiss the symptoms.[1] The illness behavior is the product of many complex factors including individual, healthcare system, and environmental characteristics.[2] Help-seeking behavior is considered an adaptive mode of coping with concerns or problems, whereas maladaptive coping style can lead to depression and other psychiatric disorders.[3] Several studies have described a number of factors that can influence an individual's help-seeking behavior, such as; gender, age, ethnicity, education, socioeconomic status, family structure, social networks, symptomatology and its perception, personality and coping appraisal, and access to healthcare systems.[4-6]

There is a high prevalence of depression and anxiety disorders among gastroenterological outpatients.[7-9] Several studies have examined the help-seeking behavior in

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patients with psychiatric diseases, particularly depression and anxiety.[10,11] However, relatively fewer studies have been done on the help-seeking behavior among those who suffer from gastrointestinal symptoms with[12] or without[13] psychiatric disorders. Data on help-seeking behavior among the Saudi population are scanty, old, and not disease specific.[14] Our null hypothesis was that gastroenterological outpatients equally use private and governmental sectors, and conventional and traditional therapies, and their help-seeking behavior is not affected by the concomitant presence of psychiatric disorders. The objective of the current study was to characterize help-seeking behavior among gastroenterological outpatients and to evaluate if this behavior is linked to the presence of depression or anxiety.

PATIENTS AND METHODS

Population

The current study was conducted among the outpatients attending gastroenterology clinic in one of the following four hospitals in Riyadh: King Khalid University Hospital (KKUH), King Fahad Medical city (KFMC), Dallah Hospital, and Dr. Sulaiman Al-Habib Arryan Hospital. All hospitals provide gastroenterology services to their patients. KKUH and KFMC hospitals are government hospitals, while Dallah and Dr. Sulaiman Al-Habib Arryan Hospitals are private hospitals. Both adult male and female patients above the age of 18 years were included. No exclusion was based on clinical diagnosis or duration of the disease.

Study design

A cross-sectional study was carried out between February and September 2013. The study obtained all required ethical approvals from the institutional review board at Faculty of Medicine at King Saud University, Riyadh, Saudi Arabia.

Sample size

So far, no population-based, epidemiological survey of psychiatric disorders has been conducted in Saudi Arabia. However, previous clinical studies among Saudi patients estimated the prevalence of depression at 20-40% and anxiety at 24%.[15-17] We estimated that 384 patients are required to detect 30% prevalence of depression with 5% precision and 80% power. However, since the two groups were not assumed to be equal (non-depression was assumed double of depression), we estimated that 431 patients are required to detect 10% difference (e.g. 20% vs. 10%) of a given help-seeking characteristic between the two study groups at 95% confidence level and 80% power.

Questionnaire

A self-administered questionnaire was developed and administered to all participants. It included three sections: Socio-demographic, help-seeking behavior, and validated tools that measure the presence of depression and anxiety. The first section included socio-demographic data such as age, gender, marital status, nationality, educational level, monthly income, occupation, residence, and type of housing. The second section included information about the gastrointestinal complaints (number, type, duration, awareness of diagnosis and underlying causes, associated distress and worry, impact on daily activities, and presence of other medical and psychiatric comorbidities) and the behavior following the development of symptoms (first intervention, type of healthcare facilities utilized, factors affecting the choice of a healthcare facility, satisfaction with services, and costs of diagnosis and treatment). The third section used the Arabic version of the nine-item Patient Health Questionnaire (PHQ-9) to assess the presence of depression and the seven-item Generalized Anxiety Disorder (GAD-7) questionnaire to assess the presence of anxiety. The content of the study questionnaire was validated by experts in gastroenterology and psychiatry to ensure the relevance and applicability of different questions. The questionnaire was then pilot tested on a small number of participants (n = 20) before widespread distribution. The wording and suggested answers were modified for some questions based on the feedback from the pilot sample.

Recruitment

Since it is almost impossible to get the roster of patients covered by each hospital, the questionnaire was distributed to patients attending the gastroenterology clinic at the time of the study, i.e. convenience sampling. The questionnaire was distributed just before or after the clinic visit. Informed written consent was obtained from all participants after explanation of the study objectives. The participation rate was 88% of all contacted patients (440/500).

Statistical analysis

Data were presented using frequencies and percentages for categorical data and mean and standard deviation (SD) for continuous data. Scores were calculated for PHQ-9 and GAD-7 with the maximum score 27 for PHQ-9 and 21 for GAD-7. As suggested earlier, those who got a score ≥10 on PHQ-9 were considered as having symptoms suggestive of depression,[18] while those who got a score ≥10 on GAD-7 were considered as having symptoms suggestive of anxiety.[19] Significant differences in the socio-demographic characteristics, complaints, and help-seeking behavior between those who had and those who did not have psychiatric disorders (depression or anxiety) were tested using Chi-square test or Fisher's exact test (as appropriate) for categorical data and Student's t-test for continuous data. All P values were two-tailed. $P < 0.05$ were considered significant. SPSS software (release 20.0, SPSS Inc., Chicago, IL, USA) was used for all statistical analyses.

RESULTS

A total of 440 patients completed the study questionnaire. They were recruited from KKUH (155), Dallah hospital (149), KFMC (69), and Dr. Sulaiman Al-Habib Arryan Hospital (67). Socio-demographic characteristics of the patients are shown in Table 1. The average age was 36.0 ± 12.8 years, with approximately half of the patients aged between 25 and 44 years. About 70% of the patients were males and approximately two thirds were married. About 90% of the patients were Saudis. The majority (57%) of patients had college education or higher. The majority (56%) of patients had a monthly income of 10,000 SR or more. Approximately 40% of the patients were unemployed, while the remaining were mainly white-collar (47%) rather than blue-collar (13%) workers. About 90% of the patients were living in Riyadh and approximately two thirds owned a house.

Table 2 shows the gastrointestinal complaints among the study patients. The majority (58%) of patients had a single complaint, while about 41% had multiple complaints. The most commonly reported complaints were abdominal pain (58%), heart burn (29%), diarrhea or constipation (25%), appetite or weight changes (22%), and nausea or vomiting (16%). Almost 60% of patients suffered from the gastrointestinal complaints for a year or more. Half of the patients were unaware of the diagnosis of their symptoms and three quarters (74%) were unaware of the reasons behind them. The majority (76%) of patients reported average to significant distress due to their symptoms, but a much lower percentage (46%) were worried of having a serious disease behind their symptoms. Almost 60% of the patients reported average to significant negative impact of the symptoms on their daily activities. Approximately 28% of the patients reported being diagnosed with another medical disease and 6% of the patients reported being diagnosed with a psychiatric disease. Almost 20% of the patients reported the diagnosis of a serious disease in a family member.

The help-seeking behavior of the study patients in response to the reported symptoms is shown in Table 3. The most common first interventions (diagnostic or therapeutic) were use of medications (68%) and undergoing endoscopy (16%), while very few patients initially used herbs or Islamic incantation (Roquia). This first intervention was done primarily (59%) in private hospitals and clinics more than in government hospitals and clinics (36%). Subsequent care was similarly provided by private (56%) and government (51%) hospitals and clinics. The choice of such hospitals and clinics was mainly due to hospital reputation (51%), presence of a health insurance (24%), previous positive experience (20%), and the presence of a relative working in these facilities (10%). The majority of the patients were totally (38%) or somewhat (34%) satisfied with the services they received in these hospitals. While the majority (63%) did not spend money, more than 20% spent 5000 SR or more on the diagnosis and treatment of their symptoms.

Using the corresponding scales, depression symptoms were seen in 36% of the patients while anxiety symptoms were seen in 28% of the patients [Figure 1]. Those who had both symptoms formed 23%, while those who had either of them were 41%. Tables 1-3 compare the association of depression and anxiety with the socio-demographic characteristics, complaints, and help-seeking behavior. Depression was significantly associated with female gender, lower education, and lower income. Depression also had a significant association with being divorced or widowed and having a Saudi nationality. Similarly, anxiety was significantly associated with middle age (25-44 years), female gender, and being divorced or widowed [Table 1]. Both depression and anxiety were associated with multiple complaints for longer durations. Anxiety was associated with pain and changes in appetite and weight, while depression was additionally associated with nausea, vomiting, diarrhea, and constipation. Both disorders had a high prevalence among those who reported significant degree of distress because of the symptoms or worries about their underlying causes. Their prevalence was also found to be higher among those with comorbidity including psychiatric diseases and those whose daily activities had been negatively impacted by their symptoms [Table 2]. Depression was seen more among patients recruited from Dr. Sulaiman Al-Habib Arryan Hospital, when the first intervention was Islamic incantation or surgery and when governmental hospitals were the place for first intervention. Both disorders had a higher prevalence among those who sought traditional healers. However, unlike anxiety, depression was higher in patients who sought multiple healthcare setting, irrespective of its type. Hospital reputation as a reason to choose the healthcare setting was the only reason associated with higher depression

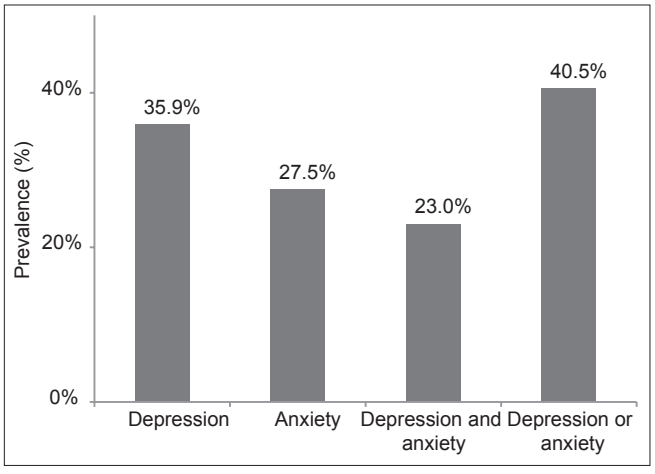

Figure 1: Prevalence of depression and anxiety disorders among outpatients attending gastroenterology clinic in four hospitals in Riyadh, Saudi Arabia (2013)

Table 1: Socio-demographic characteristics in relation to depression and anxiety disorders among outpatients attending gastroenterology clinic in four hospitals in Riyadh, Saudi Arabia (2013)

	Overall	Depression			Anxiety		
		No	Yes	*P* value	No	Yes	*P* value
Overall	440 (100.0%)	282 (64.1%)	158 (35.9%)		319 (72.5%)	121 (27.5%)	
Age (years)							
Mean±SD	36.0±12.8	35.8±13.1	36.3±12.2	0.672*	35.9±13.1	36.3±12.1	0.733*
Age groups (years)							
<25	93 (21.6%)	67 (72.0%)	26 (28.0%)	0.171	77 (82.8%)	16 (17.2%)	0.013
25-44	216 (50.1%)	132 (61.1%)	84 (38.9%)		144 (66.7%)	72 (33.3%)	
≥45	122 (28.3%)	76 (62.3%)	46 (37.7%)		90 (73.8%)	32 (26.2%)	
Gender							
Male	303 (69.2%)	206 (68.0%)	97 (32.0%)	0.012	229 (75.6%)	74 (24.4%)	0.036
Female	135 (30.8%)	75 (55.6%)	60 (44.4%)		89 (65.9%)	46 (34.1%)	
Marital status							
Single	124 (28.4%)	80 (64.5%)	44 (35.5%)	0.062	92 (74.2%)	32 (25.8%)	0.014
Married	290 (66.5%)	191 (65.9%)	99 (34.1%)		214 (73.8%)	76 (26.2%)	
Divorced or widowed	22 (5.0%)	9 (40.9%)	13 (59.1%)		10 (45.5%)	12 (54.5%)	
Nationality							
Saudi	393 (90.3%)	247 (62.8%)	146 (37.2%)	0.087	283 (72.0%)	110 (28.0%)	0.805
Non-Saudi	42 (9.7%)	32 (76.2%)	10 (23.8%)		31 (73.8%)	11 (26.2%)	
Educational level							
Pre high school	58 (13.3%)	28 (48.3%)	30 (51.7%)	0.039	35 (60.3%)	23 (39.7%)	0.140
High school	129 (29.5%)	81 (62.8%)	48 (37.2%)		99 (76.7%)	30 (23.3%)	
College	204 (46.7%)	137 (67.2%)	67 (32.8%)		148 (72.5%)	56 (27.5%)	
Post-graduate	46 (10.5%)	33 (71.7%)	13 (28.3%)		34 (73.9%)	12 (26.1%)	
Monthly income (SR)							
<5000	74 (17.2%)	42 (56.8%)	32 (43.2%)	0.010	52 (70.3%)	22 (29.7%)	0.069
5000-9999	115 (26.7%)	63 (54.8%)	52 (45.2%)		75 (65.2%)	40 (34.8%)	
10,000-14,999	132 (30.6%)	87 (65.9%)	45 (34.1%)		95 (72.0%)	37 (28.0%)	
≥15,000	110 (25.5%)	82 (74.5%)	28 (25.5%)		89 (80.9%)	21 (19.1%)	
Occupation							
Unemployed	161 (40.0%)	103 (64.0%)	58 (36.0%)	0.621	117 (72.7%)	44 (27.3%)	0.542
Blue-collar worker	53 (13.2%)	30 (56.6%)	23 (43.4%)		41 (77.4%)	12 (22.6%)	
White-collar worker	189 (46.9%)	119 (63.0%)	70 (37.0%)		132 (69.8%)	57 (30.2%)	
Residence							
Riyadh	386 (90.0%)	247 (64.0%)	139 (36.0%)	0.884	280 (72.5%)	106 (27.5%)	0.950
Outside Riyadh	43 (10.0%)	28 (65.1%)	15 (34.9%)		31 (72.1%)	12 (27.9%)	
Housing							
Own house	287 (65.5%)	188 (65.5%)	99 (34.5%)	0.464**	218 (76.0%)	69 (24.0%)	0.061**
Rented house	143 (32.6%)	86 (60.1%)	57 (39.9%)		94 (65.7%)	49 (34.3%)	
Others	8 (1.8%)	6 (75.0%)	2 (25.0%)		5 (62.5%)	3 (37.5%)	

*t-Test, **Fisher's exact test; otherwise Chi-square test

and anxiety. Lower levels of satisfaction with the obtained healthcare services and higher costs of diagnosis and treatment were associated with higher depression and anxiety [Table 3].

DISCUSSION

We are reporting the help-seeking behavior among gastroenterological outpatients recruited from four hospitals in Riyadh, Saudi Arabia. The first reaction of our patients to gastrointestinal symptoms was to use the conventional healthcare system. The use of unconventional therapies in the current study, including herbs or Islamic incantation, was much less than reported in other studies.[14] For example, it was estimated that 17% of diabetic patients attending diabetes clinic, 24% of asthmatic patients attending pulmonary clinic, and 32% of liver patients attending hepatology clinic were using herbs, compared with 3% in the current study.[20-22] This may be related to the chronic nature of the above patients compared with our patients (as the current clinic visit was the first or second visit in almost three-fourths of our patients), higher education of our patients, or effectiveness of the available

Table 2: Gastrointestinal complaints in relation to depression and anxiety disorders among outpatients attending gastroenterology clinic in four hospitals in Riyadh, Saudi Arabia (2013)

	Overall	Depression			Anxiety		
		No	Yes	*P* value	No	Yes	*P* value
Number of complaints							
None	6 (1.4%)	6 (100.0%)	0 (0.0%)	0.004	6 (100.0%)	0 (0.0%)	0.071
Single	254 (57.7%)	175 (68.9%)	79 (31.1%)		191 (75.2%)	63 (24.8%)	
Multiple	180 (40.9%)	101 (56.1%)	79 (43.9%)		122 (67.8%)	58 (32.2%)	
GIT complaints							
Abdominal pain	253 (57.5%)	148 (58.5%)	105 (41.5%)	0.004	174 (68.8%)	79 (31.2%)	0.042
Heart burn	129 (29.3%)	90 (69.8%)	39 (30.2%)	0.110	92 (71.3%)	37 (28.7%)	0.721
Diarrhea or constipation	108 (24.5%)	60 (55.6%)	48 (44.4%)	0.033	74 (68.5%)	34 (31.5%)	0.286
Appetite or weight changes	97 (22.0%)	41 (42.3%)	56 (57.7%)	<0.001	54 (55.7%)	43 (44.3%)	<0.001
Nausea and vomiting	68 (15.5%)	32 (47.1%)	36 (52.9%)	0.001	45 (66.2%)	23 (33.8%)	0.204
Others	67 (16.0%)	46 (68.7%)	21 (31.3%)	0.345	52 (77.6%)	15 (22.4%)	0.257
Duration of complaints							
1–4 weeks	71 (18.0%)	49 (69.0%)	22 (31.0%)	0.035	59 (83.1%)	12 (16.9%)	0.001
1–11 months	90 (22.8%)	53 (58.9%)	37 (41.1%)		59 (65.6%)	31 (34.4%)	
1–5 years	174 (44.1%)	117 (67.2%)	57 (32.8%)		133 (76.4%)	41 (23.6%)	
6–30 years	60 (15.2%)	29 (48.3%)	31 (51.7%)		33 (55.0%)	27 (45.0%)	
Awareness of diagnosis							
No	220 (50.0%)	139 (63.2%)	81 (36.8%)	0.691	160 (72.7%)	60 (27.3%)	0.915
Yes	220 (50.0%)	143 (65.0%)	77 (35.0%)		159 (72.3%)	61 (27.7%)	
Awareness of causes							
No	326 (74.3%)	216 (66.3%)	110 (33.7%)	0.095	244 (74.8%)	82 (25.2%)	0.055
Yes	113 (25.7%)	65 (57.5%)	48 (42.5%)		74 (65.5%)	39 (34.5%)	
Distress because of symptoms							
Significant	169 (38.4%)	78 (46.2%)	91 (53.8%)	<0.001	101 (59.8%)	68 (40.2%)	<0.001
Average	166 (37.7%)	126 (75.9%)	40 (24.1%)		133 (80.1%)	33 (19.9%)	
Limited	65 (14.8%)	47 (72.3%)	18 (27.7%)		54 (83.1%)	11 (16.9%)	
Not at all	40 (9.1%)	31 (77.5%)	9 (22.5%)		31 (77.5%)	9 (22.5%)	
Worry from serious disease							
Significant	81 (18.4%)	36 (44.4%)	45 (55.6%)	<0.001	42 (51.9%)	39 (48.1%)	<0.001
Average	120 (27.3%)	75 (62.5%)	45 (37.5%)		94 (78.3%)	26 (21.7%)	
Limited	102 (23.2%)	70 (68.6%)	32 (31.4%)		80 (78.4%)	22 (21.6%)	
Not at all	137 (31.1%)	101 (73.7%)	36 (26.3%)		103 (75.2%)	34 (24.8%)	
Impact on daily activities							
Significant	111 (25.3%)	40 (36.0%)	71 (64.0%)	<0.001	62 (55.9%)	49 (44.1%)	<0.001
Average	147 (33.5%)	92 (62.6%)	55 (37.4%)		109 (74.1%)	38 (25.9%)	
Limited	97 (22.1%)	80 (82.5%)	17 (17.5%)		80 (82.5%)	17 (17.5%)	
Not sure	21 (4.8%)	19 (90.5%)	2 (9.5%)		19 (90.5%)	2 (9.5%)	
Not at all	63 (14.3%)	51 (81.0%)	12 (19.0%)		49 (77.8%)	14 (22.2%)	
Diagnosis of other medical diseases							
No	317 (72.4%)	221 (69.7%)	96 (30.3%)	<0.001	248 (78.2%)	69 (21.8%)	<0.001
Yes	121 (27.6%)	59 (48.8%)	62 (51.2%)		70 (57.9%)	51 (42.1%)	
Diagnosis of a psychiatric disease							
No	412 (94.3%)	272 (66.0%)	140 (34.0%)	0.002	304 (73.8%)	108 (26.2%)	0.052
Yes	25 (5.7%)	9 (36.0%)	16 (64.0%)		14 (56.0%)	11 (44.0%)	
Diagnosis of a serious disease in a family member							
No	357 (81.1%)	236 (66.1%)	121 (33.9%)	0.068	265 (74.2%)	92 (25.8%)	0.092
Yes	83 (18.9%)	46 (55.4%)	37 (44.6%)		54 (65.1%)	29 (34.9%)	

medications in relieving gastrointestinal symptoms. Unlike several Western studies which showed that consultation rate and help seeking by men are consistently lower than that of women,[23] the majority of our patients were males. This may reflect the male predominance in primary health care utilization in Saudi Arabia due to logistic issues and

Table 3: Help-seeking behavior in relation to depression and anxiety disorders among outpatients attending gastroenterology clinic in four hospitals in Riyadh, Saudi Arabia (2013)

	Overall	Depression			Anxiety		
		No	Yes	*P* value	No	Yes	*P* value
Hospital							
KKUH	155 (35.2%)	94 (60.6%)	61 (39.4%)	0.033	114 (73.5%)	41 (26.5%)	0.599
KFMC	69 (15.7%)	42 (60.9%)	27 (39.1%)		48 (69.6%)	21 (30.4%)	
Dallah	149 (33.9%)	109 (73.2%)	40 (26.8%)		112 (75.2%)	37 (24.8%)	
Dr. Sulaiman Al-Habib Arryan	67 (15.2%)	37 (55.2%)	30 (44.8%)		45 (67.2%)	22 (32.8%)	
First intervention							
Medications	297 (67.5%)	190 (64.0%)	107 (36.0%)	0.001	219 (73.7%)	78 (26.3%)	0.150
Endoscopy	69 (15.7%)	45 (65.2%)	24 (34.8%)		48 (69.6%)	21 (30.4%)	
Islamic incantation	18 (4.1%)	4 (22.2%)	14 (77.8%)		9 (50.0%)	9 (50.0%)	
Herbs	15 (3.4%)	12 (80.0%)	3 (20.0%)		12 (80.0%)	3 (20.0%)	
Surgery	6 (1.4%)	3 (50.0%)	3 (50.0%)		3 (50.0%)	3 (50.0%)	
Others	35 (8.0%)	28 (80.0%)	7 (20.0%)		28 (80.0%)	7 (20.0%)	
First place to seek advice							
Government hospital	100 (22.8%)	55 (55.0%)	45 (45.0%)	0.015	68 (68.0%)	32 (32.0%)	0.045
Private hospital	149 (33.9%)	109 (73.2%)	40 (26.8%)		114 (76.5%)	35 (23.5%)	
Government clinic	58 (13.2%)	35 (60.3%)	23 (39.7%)		43 (74.1%)	15 (25.9%)	
Private clinic	111 (25.3%)	66 (59.5%)	45 (40.5%)		74 (66.7%)	37 (33.3%)	
Quran therapist	6 (1.4%)	4 (66.7%)	2 (33.3%)		5 (83.3%)	1 (16.7%)	
Traditional healer	1 (0.2%)	0 (0.0%)	1 (100.0%)		0 (0.0%)	1 (100.0%)	
Others	14 (3.2%)	12 (85.7%)	2 (14.3%)		14 (100.0%)	0 (0.0%)	
Previous places sought							
None	118 (26.8%)	90 (76.3%)	28 (23.7%)	<0.001	93 (78.8%)	25 (21.2%)	0.194
Single	201 (45.7%)	129 (64.2%)	72 (35.8%)		142 (70.6%)	59 (29.4%)	
Multiple	121 (27.5%)	63 (52.1%)	58 (47.9%)		84 (69.4%)	37 (30.6%)	
Previous places sought							
Governmental hospital	175 (39.8%)	96 (54.9%)	79 (45.1%)	0.001	120 (68.6%)	55 (31.4%)	0.134
Private hospital	176 (40.0%)	101 (57.4%)	75 (42.6%)	0.017	123 (69.9%)	53 (30.1%)	0.316
Governmental clinic	48 (10.9%)	23 (47.9%)	25 (52.1%)	0.013	35 (72.9%)	13 (27.1%)	0.945
Private clinic	72 (16.4%)	41 (56.9%)	31 (43.1%)	0.167	50 (69.4%)	22 (30.6%)	0.525
Quran therapist	29 (6.6%)	13 (44.8%)	16 (55.2%)	0.025	17 (58.6%)	12 (41.4%)	0.083
Traditional healer	16 (3.6%)	6 (37.5%)	10 (62.5%)	0.024	6 (37.5%)	10 (62.5%)	0.003
Factors of current hospital choice							
Hospital reputation	223 (50.8%)	129 (57.8%)	94 (42.2%)	0.006	152 (68.2%)	71 (31.8%)	0.042
Health insurance	107 (24.4%)	76 (71.0%)	31 (29.0%)	0.082	81 (75.7%)	26 (24.3%)	0.385
Positive experience	86 (19.6%)	59 (68.6%)	27 (31.4%)	0.322	64 (74.4%)	22 (25.6%)	0.647
Relative hospital staff	44 (10.0%)	30 (68.2%)	14 (31.8%)	0.543	33 (75.0%)	11 (25.0%)	0.688
Others	56 (13.4%)	31 (55.4%)	25 (44.6%)	0.175	38 (67.9%)	18 (32.1%)	0.477
Satisfaction with overall services							
Totally satisfied	168 (38.2%)	111 (66.1%)	57 (33.9%)	0.010	118 (70.2%)	50 (29.8%)	0.026
Somewhat satisfied	150 (34.1%)	103 (68.7%)	47 (31.3%)		119 (79.3%)	31 (20.7%)	
Not sure	102 (23.2%)	62 (60.8%)	40 (39.2%)		71 (69.6%)	31 (30.4%)	
Upset	18 (4.1%)	5 (27.8%)	13 (72.2%)		11 (61.1%)	7 (38.9%)	
Very upset	2 (0.5%)	1 (50.0%)	1 (50.0%)		0 (0.0%)	2 (100.0%)	
Overall cost of diagnosis and treatment							
None	247 (62.7%)	173 (70.0%)	74 (30.0%)	<0.001	183 (74.1%)	64 (25.9%)	0.002
<5000	58 (14.7%)	36 (62.1%)	22 (37.9%)		44 (75.9%)	14 (24.1%)	
5000-9000	42 (10.7%)	26 (61.9%)	16 (38.1%)		34 (81.0%)	8 (19.0%)	
≥10,000	47 (11.9%)	16 (34.0%)	31 (66.0%)		23 (48.9%)	24 (51.1%)	

choosy behavior of many women with regard to the gender and religion of the treating physician.[24]

As per Saudi labor policies, the employer has to provide the employee with free medical insurance, which probably makes

the preference to private or governmental sectors driven mainly by accessibility rather than affordability. Private healthcare sector was preferred for the first visit after the onset of symptoms, probably due to the better reputation and easier access compared with governmental healthcare system, as seen in previous studies.[25] Additionally, sub-analysis of the current data (not shown) indicated a significant association between the presence of insurance and the use of private services, which can be explained by the private insurance provided by private employers. The loss of predominance of private healthcare in subsequent visits may be explained by the tendency to use free governmental services with multiple visits among those who paid for their first visit. The patient satisfaction with the utilized services in the current study was high and comparable to previous local studies that showed up to 80% satisfaction with primary care services.[26,27]

Several studies have shown higher depression and anxiety rates among gastroenterological patients, and that these rates were proportional to the number of symptoms suffered.[7-9] The prevalence of depression (36%) and anxiety (28%) among our patients was generally comparable to that reported in previous local studies estimating their prevalence in primary care setting, as they were not estimated locally in gastroenterological patients. Using non-PHQ tool, local studies estimated depression at 39% among a representative sample of elderly Saudi patients with different complaints[15] and at 23% among the elderly patients attending primary care clinic in Jubail City, with higher rates among diabetics compared with non-diabetics (32% vs 16%).[16] Using the same tools as in the current study, depression was diagnosed in 20% while anxiety was diagnosed in 24% of Saudi primary care patients of all ages in Riyadh.[17] Internationally, using the same tools used in the current study, it was estimated that both depression and anxiety were affecting approximately 19% of the gastroenterological patients attending primary care clinics in the USA.[8] The lower rate observed in the latter study compared with our study may be explained by their higher cut-off point (≥15 vs. >15) used to define both depression and anxiety. Depression and/or anxiety in the current study were associated with a personal profile, including gender, marital status, income, and education, similar to that reported nationally and internationally.[14,15,28]

Help-seeking behavior in our patients was confounded by the presence of depression and anxiety, as suggested elsewhere.[12] For example, the rates of depression and anxiety in our patients were higher among those who suffered from multiple complaints for longer duration with less satisfaction with the offered services. Similarly, in a large sample of German patients with functional gastrointestinal disorders, the presence of psychiatric disorders including depression, as well as the duration and severity of the symptoms were among the independent predictors for the frequency of physician consultations.[12] Functional gastrointestinal symptoms may overwhelm the gastroenterology clinic with additional visits that otherwise need psychiatric management. This generated calls to incorporate a mental health professional as part of the multidisciplinary team in the gastroenterology clinic.[29]

The current study has many advantages: Bridging local knowledge gap in help-seeking behavior, surveying a sufficiently large number of patients from both private and governmental sectors, and studying the interaction between gastrointestinal and psychological complaints. Nevertheless, we acknowledge a number of limitations. Being a convenience sample, the results should be generalized with caution and should not be regarded as representative to Saudi gastroenterology patients. Lack of control group impeded our ability to distinguish the help-seeking behavior of gastroenterology outpatients with that of outpatients of other specialities. Being a self-reported study, the possibility of recall bias cannot be excluded. Finally, using self-rated scales to diagnose depression and anxiety may be less accurate compared with diagnostic interview conducted by a healthcare professional. However, these scales are well validated and easier to implement in busy gastroenterology clinics.

In conclusion, we are reporting largely on the conventional help-seeking behavior among gastroenterological outpatients in Saudi Arabia, with a minor role for unconventional therapies. Help-seeking behavior among these patients was confounded by the presence of relatively a high proportion of depression and anxiety. Further research may be needed to assess whether incorporating a mental health professional as a part of a multidisciplinary team in gastroenterology clinic may reduce the number of visits and shorten the course in patients with gastrointestinal complaints.

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