

Assessment of Depression among IBD Patients in Gastroenterology and Hepatology Specialized Hospital, Medical City, Iraq Using the PHQ-9

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Abstract:

Background: The management of patients with inflammatory bowel disease (IBD) must take mental health into account because it might be difficult to find the best therapies and mental health resources. Anxiety and depression are the two psychological illnesses that IBD patients experience most frequently. The growing incidence of these mental illnesses encourages mental screening of every IBD patient at the initial session. There are easy-to-use, scientifically effective screening techniques for mental health issues. As important as or even more so than a therapy modality may be psychological techniques.

Objective: To assess the level of depression among IBD patients in the Gastroenterology and Hepatology Specialized Hospital, Medical City, Ministry of Health and Environment.

Methods: The patients were provided with the three-page Patient Health Questionnaire (PHQ) as a self-administrated tool to learn more about their health. When completed, the doctor scans the completed questionnaire, verifies the "yes" responses, and then applies the diagnostic algorithms, which are briefly listed at the bottom of each page. This study was conducted on 98 patients with IBD attending the Gastroenterology and Hepatology Specialized Hospital, Medical City, Baghdad during the period from January – June 2022.

Results: Of the total number of cases included in the study 47 (47.9%) were females and 51 (52.1%) were males. The highest frequency was for young adults, 48 cases (49%), and the lowest was for children, 9 (9.2%). There were 43 cases with Ulcerative Colitis and 55 with Crohn's disease. According to the PHQ-9 score, 26 cases (26.5%) had mild scores and 9 (9.2%) cases had severe scores. The highest frequency of PHQ-9 scores was in the moderately severe range with 44 (44.9%).

Conclusion: Mild and moderate levels of depression were the most prevalent among IBD patients across all age and sex groups, which should encourage physicians to address the mental health status of their patients and to include mental health care in the routine checkups of their patients.

Keywords: Depression; Crohn's disease; IBD; PHQ-9; Ulcerative Colitis.

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Introduction:

The term "inflammatory bowel disease" (IBD) refers to the disorder when the gastrointestinal system experiences idiopathic, chronic, recurrent inflammation. Crohn's disease (CD) and ulcerative colitis (UC) are the two most common IBDs. (1) While UC only affects the colon, the CD can affect any part of the gastrointestinal tract, including the mouth and the anus. Nevertheless, CD typically affects the colon and/ or small intestine. (2) IBD significantly increases morbidity and lowers quality of life, typically without altering mortality. (3) IBD's etiology is still not fully understood. The dysregulation of intestinal immunity, which results in gastrointestinal damage, may be caused by the number of reasons. (4) Both CD and UC have common clinical and pathological traits, but differ in other characteristics. (2)(5) Both CD and UC are characterized by gastrointestinal system inflammation. The two main differences between the

two diseases are the parts of the gut that each disease affects and the degree of inflammation that changes the thickness of the gut wall. The inflammation in CD can affect any part of the digestive tract, from the mouth to the anus, although it primarily affects the ileum, the lowest region of the small intestine (ileitis), the large intestine (colitis), or both (ileocolitis). However, it typically remains at the same place throughout time in any individual person. Only the colon is impacted by the inflammation in UC. While UC is restricted to the colonic mucosa, CD can damage the thickness of the gut wall all over. (2)(5)

The prevalence of CD is higher in females and younger children than it is for UC. According to twin research, CD is more genetically predisposed than UC. (6) IBD incidence varies across the Asian continent, ranging from 0.54 per 100,000 to 3.44 per 100,000 people, according to recent comparative population-based studies. (7) In a population-based IBD study undertaken in Australia and published in

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2010, the annual incidence rates of 23.5-36.7 per 100,000 per year were among the highest recorded in the literature. (8)

IBD has significant psychosocial ramifications since it is persistent, unpredictable, incapacitating, and progressively damaging. (9) The course of IBD patients has been found to be impacted by several factors, including the likelihood of relapse, even if there is not a solid proof that they contribute to the risk for IBD development. (10)

The Patient Health Questionnaire (PHQ) is a cutting-edge instrument for making criteria-based diagnoses of depression and other mental disorders typically observed in primary care (PHQ). (11) The PHQ-9 has the potential to be used for both diagnosing depressive disorders and assessing the degree of depressive symptomatology using the same 9 items. (4)

This study's objective was to gauge the severity of depression among IBD patients registered at the Gastroenterology and Hepatology Specialized Hospital, Medical City.

Patients and Methods:

The Sample size was 98 patients, and the inclusion criteria were any patient with IBD who was diagnosed for more than one year. The study was conducted in the GIT Hospital / Medical City, from January – June 2022. Data analysis was done using Microsoft Office Excel and SPSS programs.

The Patient Health Questionnaire-9 (PHQ-9) was administered to the participants in order to gauge their levels of depression. This standard questionnaire has nine questions that must be answered based on the patient's symptoms over the past 14 days. The patient can utilize the three-page Patient Health Questionnaire (PHQ) as a self-administrated tool to learn more about their health. The doctor scans the completed questionnaire, verifies the "yes" responses, and then applies the diagnostic algorithms, which are briefly listed at the bottom of each page. Accordingly, the patient can be classified into one of the following categories based on their total scores: Minimal depression (0–4), mild depression (5–9), moderate depression (10–14),

fairly severe depression (15–19), and severe depression (20–27). (4)

Major depression is deemed to have occurred when five or more of the nine depressive symptom criteria—including a depressed mood or anhedonia—appear at least "more than half the days" over the course of two weeks. If 2, 3, or 4 depressive symptoms, such as a downcast mood or anhedonia, persisted for at least "more than half the days" over the previous two weeks, a diagnosis of other depression is made. The doctor is required to rule out physical causes of grief, customary grieving, and other factors similar to the original PRIME-MD diagnostic instrument for common mental disorders. (4)

In addition to being used to construct criteria-based diagnoses of depressive disorders, the PHQ-9 is a valid and trustworthy measure of depression severity. Because of these qualities and its conciseness, the PHQ-9 is a useful clinical and research tool. The PHQ-9 is a self-administrated variation of the PRIME-MD diagnostic tool for common mental illnesses. Each of the nine DSM-IV criteria is scored on the PHQ-9 depression module between "0" (not at all) to "3." (Nearly every day). The PHQ-9 score can range from 0 to 27. In addition, a question was added to the PHQ-9 diagnostic section asking patients who checked any difficulties how difficult it was for them to carry out their employment, maintain their homes, or get along with others.(4)

AlHadi et al first used the Arabic version of PHQ-9, which was used in this study. (12)

The patients were grouped into the following age groups: Babies (0-2 years), children (3-16 years), young adults (17-30 years), middle age (31-45 years) and older adults (>45 years). (13)

A score of less than 5 usually often indicated the absence of a depressive condition. Patients with scores of 5 - 9 had no depression or had subthreshold (other) depression, patients with scores of 10 - 14 constituted a spectrum of patients, and patients with scores of 15 or higher frequently had serious depression. (4) The following table shows the nine questions in the PHQ-9 form that the patient had to answer

Over the last 2 weeks, how often have you been bothered by the following problems?"	Not at all	Several Days	More than half the days	Nearly every day
1 Little interest or pleasure in doing things	0	1	2	3
2 Feeling down, depressed, or hopeless	0	1	2	3
3 Trouble falling asleep or sleeping too much	0	1	2	3
4 Feeling tired or having little energy	0	1	2	3
5 Poor appetite or overeating	0	1	2	3
6 Feeling bad about yourself or that you are a failure or have let yourself or watching television	0	1	2	3
7 Trouble concentration on things, such as reading the news	0	1	2	3
8 Moving or speaking so slowly that other people could have noticed. Or the opposite-being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9 Thoughts that you would be better off dead, or hurting yourself in some way	0	1	2	3
Total score (add the marked number)				

Results:

Out of the 98 patients included in the study, 47 (47.9%) were females and 51 (52%) were males. Among these young adults, 48 cases (49%) were young adults, and 9 cases (9.2%) were children, table (1).

Table 1: Gender and age group distribution of the IBD patients studied

Variable	Categories	Number (%)
Gender	Male	51 (52.0%)
	Female	47 (47.9%)
Age group	Children	9 (9.2%)
	Middle Aged Adults	25 (25.5%)
	Old Adults	16 (16.3%)
	Young Adult	48 (49.0%)
Grand total		98 (100%)

Out of the patients included in the study, 55 (56.1%) had Crohn's disease and 43 (43.9%) had Ulcerative Colitis, table (2).

Table 2: Distribution by the type of IBD disease in the study group

Type of Disease	Number (%)
Crohn's disease	55 (56.1%)
Ulcerative Colitis	43 (43.9%)
Grand total	98 (100%)

Table 4: Distribution of the study group by PHQ-9 categories and age group

PHQ-9 for Depression Categories	Age Group								p-value	
	Children		Young Adult		Middle Aged Adults		Old Adults			Total
	No.	%	No.	%	No.	%	No.	%		No.
Minimal	3	33.3	5	10.4	10	40.0	1	6.3	19	0.214
Mild	4	44.4	14	29.2	2	8.0	6	37.5	26	
Moderate	1	11.1	10	20.8	7	28.0	7	43.8	25	
Fairly severe	0	0	14	29.2	3	12.0	2	12.5	19	
Severe	1	11.1	5	10.4	3	12.0	0	0.0	9	
Total	9	100	48	100.0	25	100.0	16	100.0	98	

Table 5 shows that males had more minimal and mild depression than females, while females had more moderate and fairly severe depression, The Chi-square test revealed no statistically significant association between gender and PHQ-9 for depression (P>0.05).

Table 5: Distribution of the study group by PHQ-9 categories and gender

PHQ-9 for Depression Categories	Gender				P-value
	Male		Female		
	No.	%	No.	%	
Minimal	13	25.5	6	12.8	0.164
Mild	15	29.4	11	23.4	
Moderate	11	21.6	14	29.8	
Fairly severe	7	13.7	12	25.5	
Severe	5	9.8	4	8.5	
Total	51	100.0	47	100.0	

Discussion:

The current study adds to the body of research which demonstrates that coexisting similar pathophysiological pathways may occur and that depression is a prevalent comorbidity of IBD. With varying degrees of intensity, depression was experienced by more than half of the individuals. (14) With the current study indicating that more than

Table 3 shows that mild scores (5 – 9) of the PHQ-9 tool were found in 26 cases (26.5%) and severe scores were found in 9 cases (9.2%).

Table 3: Distribution by the PHQ-9 score in the study group

PHQ-9 Score for Depression	Number (%)
Minimal (0-4)	19 (19.4%)
Mild (5-9)	26 (26.5%)
Moderate (10-14)	25 (25.5%)
Fairly severe (15-19)	19 (19.4%)
Severe (20-27)	9 (9.2%)
Grand total	98 (100%)

Table 4 shows that those most affected by fairly severe and severe depression were the young adults (39.6%) followed by the middle-aged adults (24%). The Chi-square test shows that there was no statistically significant association between these two variables (p>0.05).

half of the patients had moderate to severe depression, attention should be drawn to the urge to include mental health care for those patients. This high prevalence of depression can affect the quality of life and the case management as a whole. A study from China concluded that the increased rate of depression among IBD patients requires that every patient diagnosed with IBD should be mentally screened during the treatment process (15). In the current study, females are more likely to have more severe depression than males, in consistence with a study from Italy which reported that females were more likely to have affective disorders than males (16). The relationship between depression and inflammation were in question, with some recent studies resulting in gender association with inflammatory responses and it was found that greater depression symptoms in men have been associated with larger ex vivo stimulated inflammatory responses where Endotoxin levels in blood may be a contributing factor to the association between depressive symptoms and altered immune responses, in the other hand, higher depressive symptoms in women have been associated with a lower inflammatory response. Additionally, it was shown that depression and quality of life were negatively

correlated in the study group, supporting our secondary goal.

Conclusions:

Mild and moderate levels of depression were the most prevalent among IBD patients across all age and sex groups, which should encourage physicians to address the mental health status of their patients and to include mental health care in the routine checkup of their patients.

Authors' contributions:

Dr. Hani Gh. Jawad: Edition, Data analysis.

Dr. Hadeer Kh. Hasan: Introduction writing

Zainab A. Abdulameer : Discussion

Qusay Y. Hamad: Data collection and entry.

Authors' Declarations:

Conflicts of Interest: None. We confirm that all the Figures and Tables in the manuscript are ours.

No real names or personal information were collected, and the patients answers to questioner were done and collected anonymously for privacy of data.

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تقييم الكآبة ضمن المرضى المصابين بمرض الأمعاء الالتهابي في مستشفى الجهاز الهضمي والكبد، مدينة الطب، العراق باستخدام نموذج الاستبيان الصحي للمرضى – 9

هاني غسان جواد، هدير خالد حسن، زينب عامر عبد الأمير، قصي يوسف حامد
مستشفى الجهاز الهضمي والكبد، مدينة الطب، بغداد، العراق.

الخلاصة

الخلفية: عملية علاج المرضى المصابين بمرض الأمعاء الالتهابي تتطلب أخذ الحالة النفسية للمريض بالحسبان لكون الأمر يؤثر على أيجاد أفضل السبل العلاجية وللصحة النفسية. القلق والكآبة هي أكثر ما يواجه مرضى المصابين بمرض الأمعاء الالتهابي. ازدياد هذه الأمراض النفسية للمرضى يتطلب إجراء فحص نفسي للمرضى خلال الجلسات الأولى للعلاج. وسائل تقييم الحالة النفسية متوفرة وهي سهلة الاستخدام. والعلاج النفسي للمرضى لا يقل أهمية عن العلاجات الأساسية للمرضى نفسه.

الهدف: تقييم مدى الكآبة ضمن المرضى المصابين بمرض الأمعاء الالتهابي في مستشفى الجهاز الهضمي والكبد في مدينة الطب، وزارة الصحة والبيئة.

المرضى والطرق: تم تجهيز المرضى بثلاثة أوراق وهي عبارة أسئلة يتم الاجابة عنها من قبل الشخص نفسه لمعرفة صحتهم النفسية. عند الانتهاء يفحص الطاقم الطبي هذه الإجابات ويتم تطبيق خوارزمية لمعرفة في أسفل الورقة. الدراسة تناولت 98 مريض مصابين بمرض الأمعاء الالتهابي يترادون مستشفى أمراض الجهاز الهضمي والكبد، مدينة الطب في بغداد خلال المدة من كانون الثاني 2022 إلى كانون الثاني 2023. **النتائج:** من بين العدد الكلي للحالات، كان 47 (47.9%) إناث و 51 (52.1%) ذكور. وكانت 48 حالة (49%) من فئة الشباب، والأقل كانوا الأطفال بتسعة حالات (9.2%). النتائج كشفت إن 43 مريض كانوا مصابين بالتهاب القولون التقرحي، بينما 55 مريض كانوا مصابين بمرض كرونز. طبقاً لنتائج الاستبيان، الحالات البسيطة ذات الدرجة 5 إلى 9 سُجلت في 26 حالة (26.5%)، بينما الحالات الشديدة وُجدت في 9 حالات (9.2%). أكثر النتائج تكراراً كانت الحالات البسيطة إلى المتوسطة في هذه الدراسة.

الاستنتاج: كانت مستويات الاكتئاب الخفيفة والمتوسطة هي الأكثر انتشاراً بين مرضى التهاب الأمعاء في جميع الفئات العمرية والجنسية، الأمر الذي ينبغي أن يشجع الأطباء على معالجة حالة الصحة العقلية لمرضاهم وإدراج رعاية الصحة العقلية في الفحص الروتيني للمرضى. **الكلمات المفتاحية:** مرض الأمعاء الالتهابي، الاستبيان الصحي للمرضى، الكآبة، مرض كرونز، التهاب القولون التقرحي.