Original Article

Prevalence of Mental Health Disorders and Their Influence on Quality of Life in Ulcerative Colitis Patients

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ABSTRACT

Objective: To assess the prevalence of mental health problems in ulcerative colitis patients and their effect on patient's quality of life (Qol).

Study Design: Multicentre and cross sectional study

Place and Duration of Study: This study was conducted at the Qazi Hussain Ahmed Medical Complex, Nowshera, and Lady Reading Hospital, Peshawar Pakistan from March 2023 and March 2024.

Methods: The current research includes 50 ulcerative colitis patients. The patients' QoL was evaluated by employing the IBDQ-32 and the psychological aspects in these patients were evaluated using the DASS-21. SPSS version 23 software was used for the statistical analysis of all data.

Results: Multiple regression analysis demonstrated a negative correlation of symptoms of depression, anxiety, and stress and QoL in our study. Higher anxiety scores were linked with worse QoL in systemic symptoms ($p < 0.05$) and intestinal symptoms ($p < 0.05$) and Depression scores were also linked with worse QoL ($p < 0.001$) in emotional function, whereas stress scores were associated with poorer QoL ($p = 0.002$) in the social support domain.

Conclusion: This study looked at the levels of stress, anxiety, and depression in ulcerative colitis patients. All of the parameters were linked to worse quality of life. Thus, psychological symptoms must be taken into report and treated promptly when designing interventions to enhance QoL for patients of ulcerative colitis.

Key Words: Anxiety, Ulcerative colitis, Stress, quality of life

INTRODUCTION

Inflammatory Bowel Disease (IBD), encompassing Ulcerative Colitis (UC) and Crohn's Disease (CD) characterize a significant global health problem, especially in developed nations[1]. Nonetheless, emerging nations have seen an abrupt rise in the prevalence and incidence of IBD. In comparison to CD which is more prevalent in the European nations and United States, ulcerative colitis is notably more common in developing regions such as Pakistan[2, 3].

Evidence indicates that in comparison to general population, the patients with chronic illnesses like IBD exhibit a higher significant incidence of anxiety and depression[4]. Frequent relapses and the chronic nature of IBD severely impact patients' QoL[5]. The persistent anxiety and depression experienced by these individuals further exacerbate their daily activities, academic performance, work capabilities, and social interactions[6]. Consequently, the interplay between IBD and mental health conditions such as depression profoundly affects patients' QoL that contribute to increased morbidity and mortality[7].

Although the exact cause-and-effect link between anxiety and depression and IBD is yet unknown, numerous studies have highlighted various factors that contribute to worsening mental health in these patients[8]. Social isolation and financial difficulties, for instance, are significant contributors to anxiety and depression among individuals with IBD. If left unidentified and untreated, these mental health issues can adversely affect the disease outcome[9, 10].

Therefore, it is critical to recognize individuals at higher risk for anxiety and depression and give timely mental health interventions. This approach may lead to improved long-term outcomes for IBD patients[11, 12]. Given that prevalent of Ulcerative Colitis is more in comparison to Crohn's Disease in Pakistan, the aims of current study was to measure the prevalence of mental health issues among Ulcerative Colitis patients and assess their effect on the patients QoL.

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METHODS

This study was multicentre cross sectional, carried out at Qazi Hussain Ahmed Medical Complex, in Nowshera, and Lady Reading Hospital, Peshawar Pakistan. Participants were recruited from the Gastroenterology outpatient department between March 2023 and March 2024. The inclusion criteria comprised adult patients of ≥18 years with a confirmed diagnosis of Ulcerative Colitis based on endoscopic and histo-pathological clinical criteria for a minimum duration of 1 year. The current research includes 50 ulcerative colitis patients. The Ethical committee granted the ethical approval and before participation, each individual gave verbal informed consent. The patients' QoL was evaluated by employing the IBDQ-32 and the psychological aspects in these patients were evaluated using the DASS-21.

Depression, Anxiety, and Stress Scale-21 (DASS-21) is a validated screening instrument for anxiety, stress and depression. The three DASS-21 scales consist of seven items each, which are further categorized into subscales that have comparable content. Respondents indicate how much the phrase resonated with them throughout the past 4 weeks on a Likert scale of four points [4]. The cumulative scores of the relevant items yield the scores for stress, anxiety, and depression.

Inflammatory Bowel Disease Questionnaire (IBDQ-32) is an instrument that has been verified to evaluate the QoL in individuals with IBD. It has 32 questions divided into four domains: bowel symptoms, systemic symptoms, emotional function, and social function. Lower scores imply worse quality of life. The responses are measured on a Likert scale ranging from one (representing the worst case scenario) to seven (representing the best case scenario). This scale shows the extent to which the declarations pertained to the individuals in the last month. The primary outcome measures were the prevalence of depression, stress and anxiety among patients with Ulcerative Colitis, assessed using the DASS-21 questionnaire. Secondary outcomes included the effect of anxiety, stress and depression on the QoL of UC patients, measured using the IBDQ-32. Descriptive statistics was applied on Demographical and clinical parameters. The prevalence of anxiety and depression was calculated, and associations between anxiety, depression, and quality of life were examined by employing suitable statistical tests like t-test, chi-square test and correlation analysis. Multivariate regression analysis may be employed to identify factors correlated with anxiety, depression, and impaired QoL. Mean and standard deviation (SD) were used for the calculation of quantitative variables. We utilized relative (%) and absolute (N) frequencies to characterize the categorical parameters. SPSS version 23 software was used for the statistical analysis of all data.

RESULTS

The study population included 50 patients of ulcerative colitis who's clinical and demographic parameters are presented in Table 1 and 2 respectively. The mean age (±SD) was 40 years (±11 years), with 60% of them being female. Table 3 displays the descriptive data for the scores on the depression, anxiety, and stress components of the scale. The scores range from 0 to 42. The mean (SD) score for stress was 18 (10.5) points in our study, whereas it was 11 (10) points, and 14 (11) points for anxiety and depression.

Table 4 displays the descriptive findings for the IBDQ scores. A higher QoL is indicated by higher ratings. The systemic symptoms score varied from 12 to 36 points, with an average of 24.1 points (SD = 6.1points) and the intestinal symptoms score from 25 to 72 points, with mean (SD) of 55.5 (11) points in our study. Additionally, the range of emotional function score was from 25 to 75 points, with the mean of 57 (14.2) points in our study. Score of social function is ranged from 14 to 36 with mean (SD) of 29.4 (6.3).

In IBD patients, anxiety symptoms were found to be independently correlated with systemic and intestinal symptoms, stress symptoms with social function and depression symptoms with emotional function (Table 5)
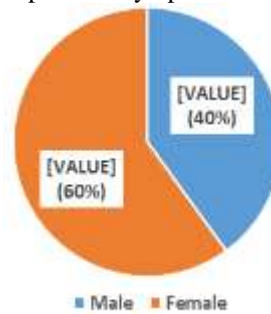

Figure No. 1: Gender ratio

Table No. 1:

Demographic characteristics		N	%
Age in years, mean (SD)		40 (SD=11)	
Educational attainment	Illiterate	13	26
	Literate only	27	54
	Graduate	10	20
Marital status	Married	43	86
	Unmarried	6	12
	Divorced	1	2
Children	No	10	20
	Yes	40	80
Employment	Unemployed	33	66
	Employed/business	17	34
Living Locality	Urban	25	50
	Semi-urban	15	30
	Rural	10	20

Table No. 2: Clinical characteristics of the patients

Clinical characteristics		N	%
	Ulcerative colitis	50	100
IBD in other Family members	No	44	88
	Yes	6	12
Active disease at present	No	37	74
	Yes	13	26
Hospitalization for IBD	No	20	40
	Yes	30	60
Surgery for IBD	No	47	94
	Yes	3	6
suffering from other disease	No	44	88
	Yes	6	12

Table No. 3: Patients' depression, anxiety and stress score (n=50)

	Minimum value	Maximum value	Mean (±SD)
Depression score	0	42	14 (±11)
Anxiety score	0	42	11 (±10)
Stress score	0	42	18 (±10.5)

Table No. 4: IBD patients' quality of life score (n=50)

	Minimum value	Maximum value	Mean (±SD)
Intestinal symptoms	25	72	55.5 (±11)
Systemic symptoms	12	36	24.1 (±6.1)
Emotional function	25	75	57 (±14.2)
Social function	14	36	29.4 (±6.3)

Table No. 5: IBD patients

			p-value
Intestinal symptoms of IBDQ-32 and anxiety			
Anxiety			0.001
Systemic symptoms of IBDQ-32 and anxiety			
Anxiety			0.013
Emotional symptoms of IBDQ-32 and depression			
Depression			<0.001
Social function of IBDQ-32 and stress			
Stress			0.002

DISCUSSION

This study looked at the quality of life, stress, anxiety and depression in ulcerative colitis patients. This study also looked at potential relationships between these variables. According to our study the most prevalent psychological conditions among IBD patients are anxiety and depression which is in accordance with the studies from the rest of the world[14, 15]. A population-based study found that IBD patients had lifetime prevalence rates of anxiety of 24.4–31.9% and depression as 21.8–22.5% [15].

The quality of life is significantly impacted by IBD. According to a French cohort, 60% of IBD patients have extreme weariness and a low QoL [16]. The disease's symptoms impair social interactions, everyday tasks, mental health, and interpersonal connections, which lowers the QoL for both patients and those who care for them[17]. These factors have led to the medical and scientific communities' growing recognition of the need of evaluating the QoL in patients of IBD. Findings in our study regarding quality of life of Ulcerative colitis patients are also consistent with a study that evaluated the health-associated QoL of life of 89 patients of IBD[18].

Intestinal and systemic symptoms were associated with a lower QoL for IBD patients who also had anxiety symptoms, according to one study. Patients experience worry and anxiety because to the chronic duration and intensity of their symptoms, which has been linked to a worse quality of life[19, 20]. Furthermore, the findings indicated that the participants' QoL in terms of their emotional function decreased with increasing depression levels. Research indicates a reciprocal association between psychological issues and inflammatory responses. IBD symptoms may have been exacerbated by a history of poor psychological status, and inflammatory activity is linked to the emergence of psychological illnesses[21]. Periods of flare-ups and a decreased responsiveness to therapy are also linked to depression[22]. For provision of favorable clinical course of the condition, it is crucial to concurrently attend to mental and physical well-being. Positive psychological traits including body acceptance and purpose in life were revealed to be important determinants of quality of life (QoL) in a recent study involving 70 IBD patients[23]. Additionally, 172 IBD patients participated in a research that revealed that individuals with moderate-to-severe stress, depression, anxiety, and poor quality of life had a substantially higher disease severity index, which is a measure of illness severity in IBD patients[24].

Moreover, worse quality of life in social activity domains was linked to higher self-reported stress levels. Physical issues frequently prevent a person from engaging in social activities, which is linked to higher levels of stress[20]. Research indicates that the primary determinants of a patient's quality of life, regardless of age, are the existence of symptoms, the extent of the illness, and emotional disturbances[25, 26].

Attention also needs to be paid to the mental health and quality of life of IBD patients. It has recently been demonstrated that screening for mood problems in people with IBD improves mental health and disease outcome in these patients[9]. Untreated mental illness

can have disastrous consequences and accelerate the progression of IBD[20]. Therefore, it's critical to identify mental illnesses in the IBD community as soon as possible.

CONCLUSION

Our study outlined the growing burden of mental health disorders in ulcerative colitis patients and their impact on their quality of life. According to our study patients with mental health disorders have poor quality of life and adverse disease outcome. In conclusion our results highlights the significance of early identification and treatment of the mental health disorders in ulcerative colitis patients.

Author's Contribution:

Concept & Design of Study:	Hashmatullah Khan
Drafting:	Hamid Ullah, Khalil Azam
Data Analysis:	Asfandyar Khan, Liaqat Ali
Revisiting Critically:	Hashmatullah Khan, Hamid Ullah
Final Approval of version:	Hashmatullah Khan

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