

Assessment of Inflammatory Bowel Disease Patient's Needs and Problems from a Nursing Perspective

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ABSTRACT

Background: Inflammatory bowel diseases (IBDs) are a group of diseases characterized by the presence of chronic inflammation in the absence of an infectious etiology. The main diseases are Crohn's disease (CD) and ulcerative colitis (UC).

Aim: This study aimed to assess inflammatory bowel disease patient's needs and problems from a nursing perspective.

Design: A descriptive exploratory research design was used.

Setting: This study was conducted in outpatient clinics, gastroenterology clinic, Medical Hospital, Ain Shams University Hospital.

Subjects: A purposive sample of (130) adult patients from both sex attending to outpatient clinics. **Tools:** Two tools were used for data collection. Tool I: Patient's structured interview questionnaire: which include (a) Patient's demographic characteristics, (b) Patient's Medical Data. Tool II: Patients needs and problems assessment questionnaire: which include (a) Patient's knowledge regarding inflammatory bowel disease. (b) Patient's needs regarding inflammatory bowel disease.

Results: The study concluded that (54.6%) of the studied patients with IBD had the highest level of physical, psychological and social needs. Also, more than half of the studied patients with IBD had the lowest level of functional needs. Additionally, more than half of the patients with IBD had the highest level of needs.

Conclusion: The study findings reported that more than half of the studied patients with IBD had the highest level of needs. Additionally, there was a highly statistically positive correlation between total score of physical, psychological, social and functional needs among patients with inflammatory bowel disease.

Recommendation: Health education programs should be applied to increase the patients' knowledge regarding lifestyle changes and provide possible solutions to the factors that may affect the changes of their lifestyle.

Introduction

Inflammatory bowel diseases (IBDs) are a group of diseases characterized by the presence of chronic inflammation in the absence of an infectious etiology. The main diseases included in this group are Crohn's disease (CD) and ulcerative colitis (UC). These pathologies involve chronic inflammation of the intestine, characterized by phases of quiescence and phases of flare-up of the disease. The most common symptoms are abdominal pain, vomiting, diarrhea, flatulence, blood in the stool, frequent urge to evacuate with a sense of incomplete bowel emptying (tenesmus), and weight loss (Actis, et.al., 2019). Inflammatory bowel diseases (IBDs) are a systemic disease that can involve multiple organs or systems, patients with IBD often also have extra intestinal manifestations. In particular, joints, skin, and eyes are affected. The biliary tract, lungs, pancreas, and vascular system may be involved less frequently (Actis, et.al., 2019).

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The patient with IBD is a complex patient to be treated from a multidisciplinary point of view, namely, from a clinical point of view (diagnosing the disease, monitoring and treating signs and symptoms of the disease) and also from a psychological point of view. While many people with IBD are able to lead reasonably normal lives, an audit revealed that 88.5% of people with the disease feel that their quality of life is affected to

Patients with IBD who are parents of young children face many anxieties about their parenting, especially when they are unwell or hospitalized, and clearly need more practical help and support. The patient wants to be seen as an individual, not as a diagnosis. They also want their experience with their condition to be recognized rather than ignored. These psychosocial problems are often not the primary concerns of physicians, who, in their "medical model", may focus more on diagnosis, disease treatment, and physical symptom management. It has been suggested that nurses are better suited to help and support patients with these problems and that the team's multidisciplinary approach should provide a more comprehensive care package. From these needs, the figure of the IBD nurse was born (Carels, et.al., 2021).

In addition to symptoms such as diarrhea and fatigue, IBD commonly causes psychological distress to patients. The main concerns relate to the uncertain origins and course of the disease, execution of any surgery and/or creation of an ostomy, concern of not being able to reach the full potential of life, loss of bowel control, being a burden to others, production of unpleasant odors, and distortion of body image (due to, for example, the presence of an ostomy). Hospitalization can aggravate concerns about the potential for personal fulfillment by causing unwanted forced absence from work or studies (Rubin, et.al., 2021).

There are important elements of care for IBD patients include quick access to clinics and providing adequate time to allow for discussion, explanation, information, and counseling patients place a very high value on empathy, compassion, and interest. Loss of energy, loss of control, low body image, isolation and fear, failure to reach full potential, and lack of information are the main concerns of people with IBD (Bennett, et al., 2022).

Despite the fact that it is a major concern, IBD-related incontinence is rarely mentioned by patients to their doctor, but incontinence remains a major fear. According to new research, up to 74% of people with IBD experience fecal incontinence, which is not always linked to flare-ups. During hospitalization, the problem of incontinence is not lessened, as a relapse is likely and the toilets can be shared among

some extent by the diagnosis and ongoing nature of the condition. IBD often has an unpredictable course, with some patients experiencing rapid-onset intestinal and other symptoms exacerbations. These flare-ups can be very serious, require urgent care and sometimes hospitalization, and can even be life-threatening (Ribaldone, et al., 2019).

several patients, thus limiting their availability (Fantini, et al., 2020). The urgency can be serious, with some patients reporting a time delay of less than a minute between the urge in their bowels and the actual need to defecate. Loss of bowel function is so worrying that many IBD patients make a point of knowing where the closest bathroom is. IBD nurses may provide empathic support and may be able to allow faster/easier access to facilities. In the event of an incontinence episode, discrete treatment and preservation of the patient's integrity are critical. (Davis, et.al., 2020).

Communication is an integral part of the nursing role, with both verbal and nonverbal skills being important in meeting the needs of the patient. IBD has a huge effect on patients' lives and comes with a slew of unknowns. IBD nurses provide them with a great deal of encouragement, guidance, companionship, care, and empathy, which they value greatly. Communication is critical in the formation of relationships and confidence with any chronic illness where the patient may have an ongoing interaction with healthcare professionals. It is critical to establish and sustain a therapeutic alliance between the nurse and the patient. It can be used to enable patients to self-manage, to take an active (rather than a passive) role in their own treatment, and to allow recognition while respecting the patient's disease expertise (Spagnuolo, et al., 2021).

Nurses should be aware that patients can struggle with the loss of their health at different times. This can have an impact on how a newly diagnosed IBD patient offers, finds, receives, and processes information. Worry, anxiety, and their physical state will hinder their ability to interpret information, which must be conveyed in a way that is not easily misunderstood. To complement verbal information, written information, brochures, or web-based materials are recommended. Nurses may use patient information brochures produced by country-specific IBD patient organizations in the absence of in-house patient information brochures (Sirimarco, et al., 2021).

Significance of the study:

Crohn's disease (CD) and ulcerative colitis (UC) are chronic inflammatory diseases of the

gastrointestinal tract with rising global incidence and prevalence. Patients who are affected by IBD also find that their illness has an effect on many facets of their lives, including relationships, education, socialization, and work. In the United States (US), there are approximately 3 million individuals living with inflammatory bowel disease (IBD), which corresponds to a prevalence of approximately 1.3%. A recent study from the Centers for Disease Control and Prevention (CDC) of Medicare beneficiaries over the age of 67 years from 2001 to 2018 reported the prevalence of CD and UC by race and ethnicity. As expected, the prevalence of CD and UC was highest among white individuals in the US, however the greatest increase in prevalence of IBD over this period was observed among non-Hispanic Black individuals (Alatab, et al., 2020).

Inflammatory bowel diseases (IBDs) nurses may be able to provide professional advice to patients about their IBD, but all nurses must be empathic and active listeners with enough expertise to offer practical guidance on key areas of concern to patients. Diet (with appropriate referral to specialized dietitians, who should be part of the IBD multidisciplinary team), social issues, common IBD symptoms and complications, IBD etiology, drugs and possible associated side effects, and surgical procedures are among these fields. IBD nurses may provide emotional support to patients by encouraging them to express their concerns. In a regular medical setting, nonclinical conditions may be ignored, and patients will appreciate the opportunity to be heard and "taken seriously" (Saibeni, et al., 2020).

Aim of the study:

The aim of this study was to assess inflammatory bowel disease patient's needs and problems from a nursing perspective through the following objectives:

1. Assess inflammatory bowel disease patient's needs.
2. Assess inflammatory bowel disease patient's problems.

Subjects and Methods:

I- Technical item:

Research design: A descriptive exploratory research design was used in this study.

Setting:

This study was conducted in outpatient clinics, gastroenterology clinic, Medical Hospital, Ain Shams University Hospital.

Subjects:

A purposive sample of (130) adult patients from both sexes attending to outpatient clinics were involved in this study from the above-mentioned setting who accepted to participate in the study.

Tools for data collection:

Data will be collected using the following tools:

Tool I: Patient's structured interview questionnaire:

This tool was developed by the investigator based on (Huamán, et al., 2010) and the relevant literature review and was written in Arabic to suit patient's level of education. It consisted of two parts:

Part I: Patient's demographic characteristics: This part included (patient's age, gender, level of education, marital status, occupation and smoking).

Part II: Patient's Medical Data: This part included (the information of patient's health history, present diagnosis and previous hospitalization).

Tool II: Patients needs and problems questionnaire: This tool developed by the investigator based on (Alrubaiy, et al., 2015) and the relevant literature review and was written in Arabic to suit patient's level of education. It consisted of two parts:

Part I: Patient's knowledge regarding inflammatory bowel disease: It was used to assess Patient's knowledge regarding IBD. It was included (definition, signs and symptoms, causes, common relevant disease, diagnostic tests, diet and medications) and it consisted of (13) items.

Scoring system for the knowledge questionnaire:

- This tool consisted of (13) items with a total grade (13). Zero grade was given for incorrect answer, and one grade for correct answer. Subject responses were calculated in the scoring system.
- knowledge regarding IBD questionnaire was classified into:
- **Satisfactory knowledge:** $\geq 75\%$, it means equal or more than 9.75 = ≥ 10 points.
- **Un-satisfactory knowledge:** $\leq 75\%$, it means less than 10 points.

Part II: Patient's needs and problems regarding inflammatory bowel disease: It was used to assess Patient's needs regarding IBD. It consisted of (35) items and divided into 4 dimensions.

Scoring system for patients needs and problems questionnaire:

- This tool consisted of (35) items with a total grade (105). For negative items (all negative except items 5 and 11 in psychological need dimension): Three grade was given for items of (three times weekly or all of the time), two grade was given for (twice weekly or Most of the time), one grade was given for (Only once in the week or A little of the time) and zero for item of (none of the time). For positive items (items 5 and 11 in psychological need dimension), the scoring system was reversed. Subject responses were calculated in the scoring system.

Patient needs and problems regarding IBD questionnaire was classified in to:

- **Lowest level of need:** $\geq 60\%$, it means equal or more than 63 points.
- **Highest level of need:** $\leq 60\%$, it means less than 63 points.

II- Operational item:

The operational item included the preparatory phase, content validity, pilot study and field work.

A) Preparatory phase:

This phase included reviewing of past, current, national and international related literature and theoretical knowledge from various aspects of the study through using books, articles, internet, periodical, journals and magazines to develop tools for data collection. During this phase, the investigator also visited the selected placebo get acquainted with the personal and the study setting. The development of the tools was under supervisor's guidance and expert opinion were considered.

B) Validity:

The tools were translated into Arabic and tested by five experts in the field of the study for their content validity and translation through an opinion's questionnaire. Accordingly, the necessary modifications were done. The jury group of experts specialized in Adult Health Nursing from the Faculty of Nursing - Helwan University to review tools for clarity relevance, comprehensiveness, understanding and applicability.

Reliability:

Tools were examined for assessing their internal consistency by Cronbach's Alpha. **Second tool Part I:** Patient's knowledge questionnaire regarding inflammatory bowel disease showed (0.976) which indicated excellent internal consistency. **Part II:** Patient's needs and problems questionnaire regarding inflammatory bowel disease showed (0.947) which indicated excellent internal consistency. Statistically equation of Cronbach's alpha reliability coefficient normally ranges between 0 and 1 higher values (more than 0.7) denotes acceptable reliability.

C) Pilot study:

A pilot study was conducted on 10% of the subjects (n= 13 subjects) they were selected randomly. The aim of the pilot study to confirm the clarity, applicability and feasibility of the tools and to estimate the time required for fulfilling the questionnaire. According to the result of the pilot study, no modifications were done for the used tools. So, the subjects from the pilot study were included to the sample.

D) Field work:

- An approval was obtained from the study subjects individually and the scientific ethical committee of faculty of nursing at Helwan University using a written informed consent obtained from each participant prior to data collection.
- An approval was obtained from the director of the outpatient clinic, GIT clinic

in Medicine Hospital, Ain shams University Hospital.

- Data collection of this study was started and completed within six months from the beginning of May 2022 to the end of October 2022.
- The investigator introduced himself to the studied subjects and gave them a brief explanation about the study and its purpose before any data collection.
- The investigator was started to collect data from the outpatient clinics at gastroenterology clinic, Medical Hospital, Ain Shams University Hospital, two days / week (Saturday and Tuesday) from 9 am: 1 pm.
- The time required to collect data from each subject about 20-30 minutes.
- The study tool was filled in and completed by the investigator once.

III-Administrative item:

An official permission was obtained from the Dean of faculty of Nursing Helwan University and director of the Medical Hospital, Ain Shams University Hospital in which the study will be conducted. Then the researcher met the clinics manager and explained the purpose of the study to obtain their approval and assistance on conducting the study.

Ethical consideration:

An official permission to conduct the proposed study was obtained from the Scientific Research Ethics Committee. Participation in the study was voluntary and subjects were given complete full information about the study and their role before signing the informed consent. The ethical considerations were included explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information where it was not be accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs was respected.

IV-Statistical item:

Data entry and analysis were performed using SPSS statistical package version 26. Categorical variables were expressed as number and percentage while continuous variables were expressed as (mean \pm SD). For comparison of categorical data, the χ^2 -test was performed. Comparison of quantitative variables between the study groups was carried out using the student t-test for independent samples to compare two groups when normally distributed. ANOVA test was used to compare mean in normally distributed quantitative variables in more than two groups. Pearson correlation was done to measure correlation between quantitative variables.

RESULTS

Table (1): Frequency and percentage distribution of demographic characteristics among the studied patients with inflammatory bowel disease(n= 130)

Items	No.	%	
Age (year)	▪ 20- ≤ 30 years old	55	42.3
	▪ 31- ≤ 40 years old	33	25.4
	▪ 41- ≤ 50 years old	26	20.0
	▪ > 50 years old	16	12.3
	▪ Mean ± SD	34.95 ± 9.45	
Gender	▪ Male	61	46.9
	▪ Female	69	53.1
Marital status	▪ Single	36	27.7
	▪ Married	79	60.8
	▪ Widow	12	9.2
	▪ Divorced	3	2.3
Occupation	▪ Employed	55	42.3
	▪ Unemployed	31	23.8
	▪ Worker	9	6.9
	▪ Housewife	35	26.9
Smoking	▪ Yes	53	40.8
	▪ No	77	59.2

Table (1): Illustrates that 42.3% of the age of the studied patients with IBD was between 20 - ≤ 30 years old with a mean age of 34.95 ± 9.45. also, more than half (53.1%) of them were female with male to females. additionally, considering marital status, more than two thirds (60.8%) of them were married. In relation to occupation and smoking, more than two fifths (42.3%, 40.8%) of them were employed and smokers respectively.

Figure (1): Percentage distribution of the total level of knowledge among the studied patients with inflammatory bowel disease (n= 130)

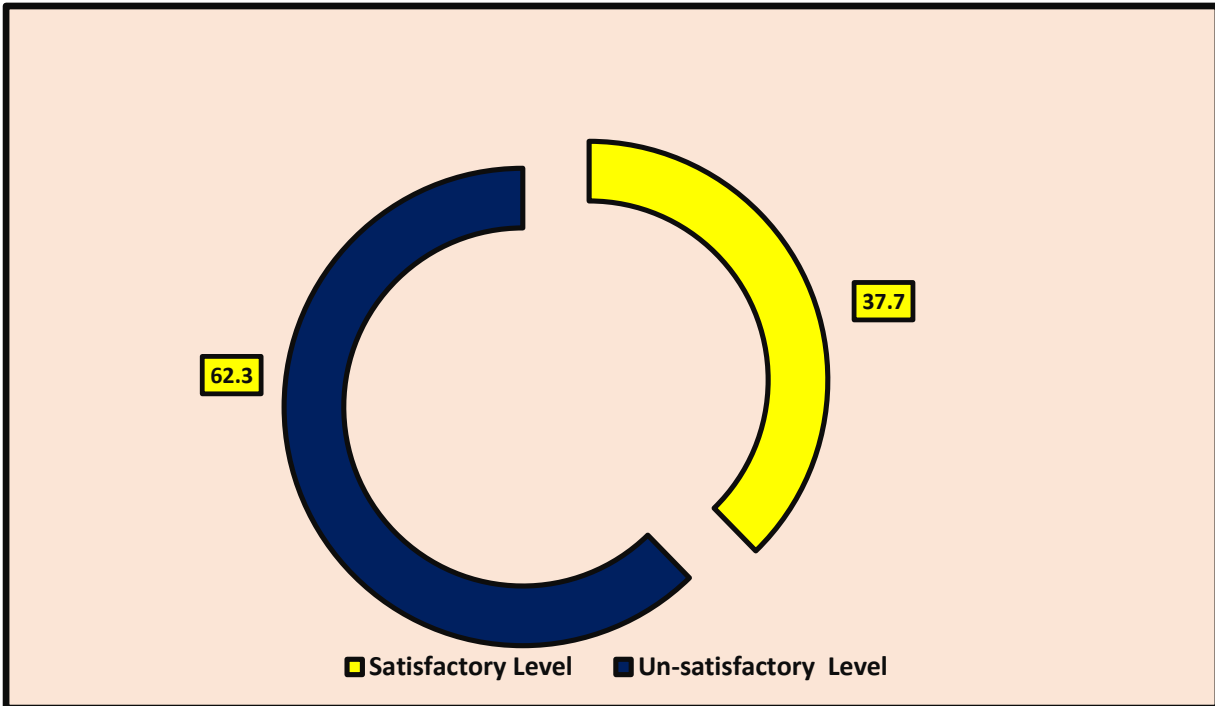


Figure (1): Clarifies that more than two-thirds (62.3%) of the studied patients had an unsatisfactory level of knowledge regarding inflammatory bowel disease.

Figure (2): Percentage distribution of the total level of physical needs among the studied patients with inflammatory bowel disease (n= 130)

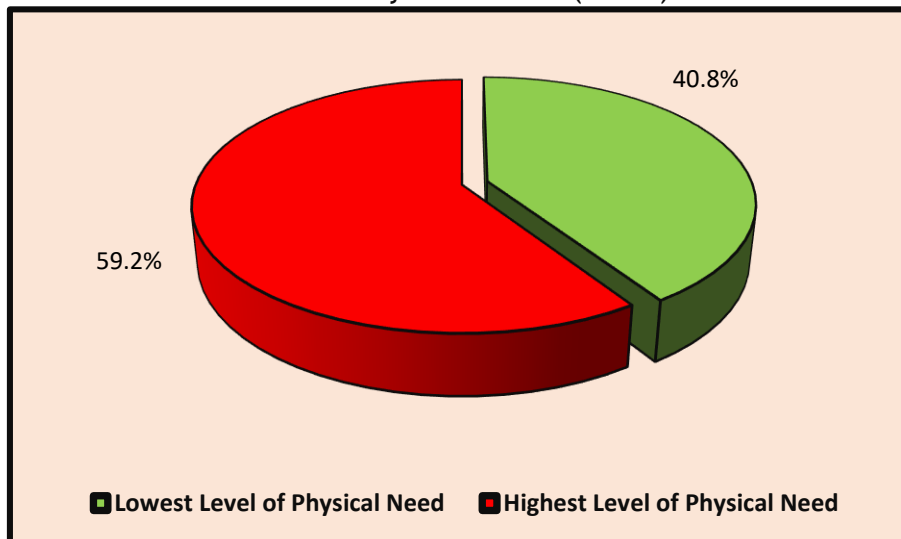


Figure (2): represents total level of physical needs among patients with inflammatory bowel disease. It clarifies that about two-thirds (59.2%) of the patients with IBD had the highest level of physical need. Moreover, highest to lowest level of physical need ratio = 1.5:1.

Figure (3): Percentage distribution of the total level of psychological needs among patients with inflammatory bowel disease (n= 130)

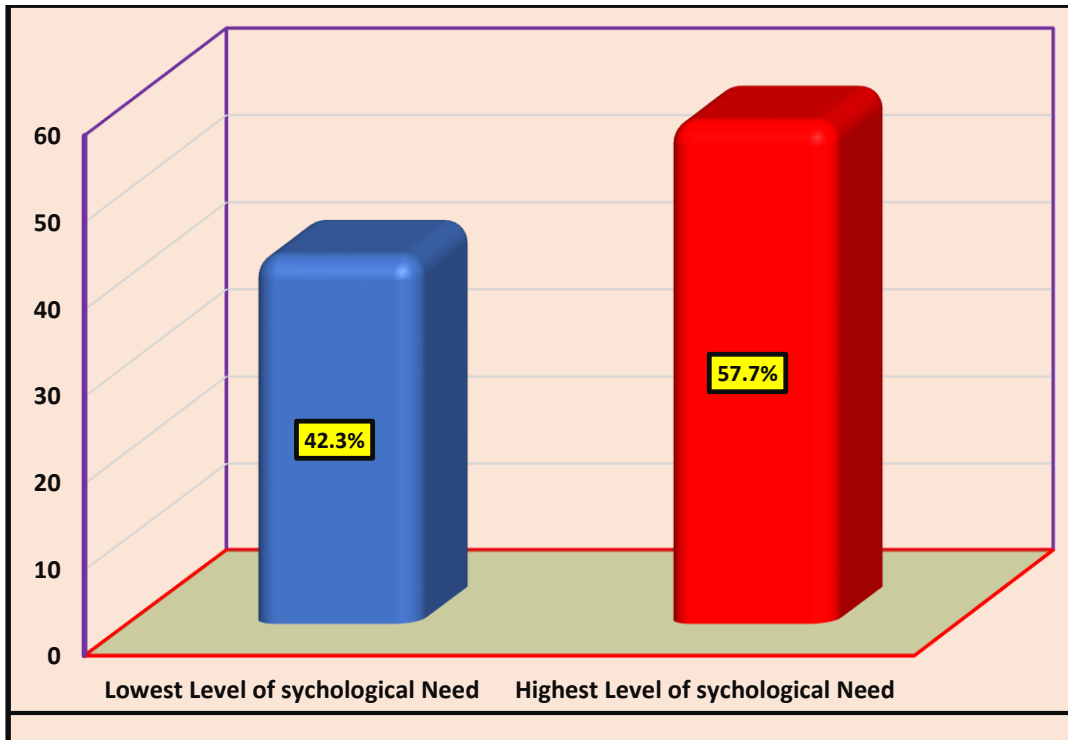


Figure (3) Clarifies that more than half (57.7%) of the studied patients with IBD had the highest level of psychological needs.

Table (2): Frequency and percentage distribution of the social needs among the studied patients with inflammatory bowel disease (n= 130)

Variable	Patient's social needs	
	N	%
Bowel condition prevent you from going out socially	Not at all.	19 14.6
	Some of the time.	72 55.4
	Most of the time.	32 24.6
	All of the time.	7 5.4
Bowel condition affected your leisure or sports activities	Not at all.	8 6.2
	Some of the time.	29 22.3
	Most of the time.	46 35.4
	All of the time.	47 36.2
Avoid attending events where there was no toilet close at hand	Not at all.	16 12.3
	Some of the time.	52 40.0
	Most of the time.	58 44.6
	All of the time.	4 3.1

Table (2): Illustrates that 55.4% of the studied patients with IBD had a bowel condition that prevent the patient from going out socially some of the time. Additionally, all of the time, 36.2% of them had bowel condition that affected patient's leisure or sports activities and 44.6% of them avoid attending events where there was no toilet close at hand most of the time.

Figure (4): Percentage distribution of the total level of functional needs among patients with inflammatory bowel disease (n= 130)

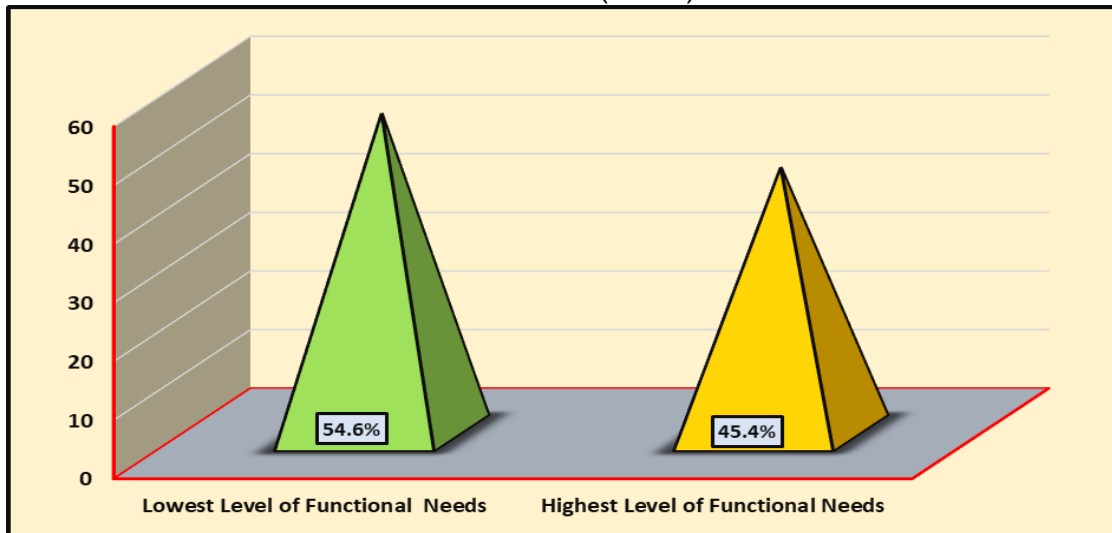


Figure (4): Clarifies that more than half (54.6%) of the studied patients with IBD had the lowest level of functional needs.

Figure (5): Percentage distribution of the total level of needs among the studied patients with inflammatory bowel disease (n= 130)

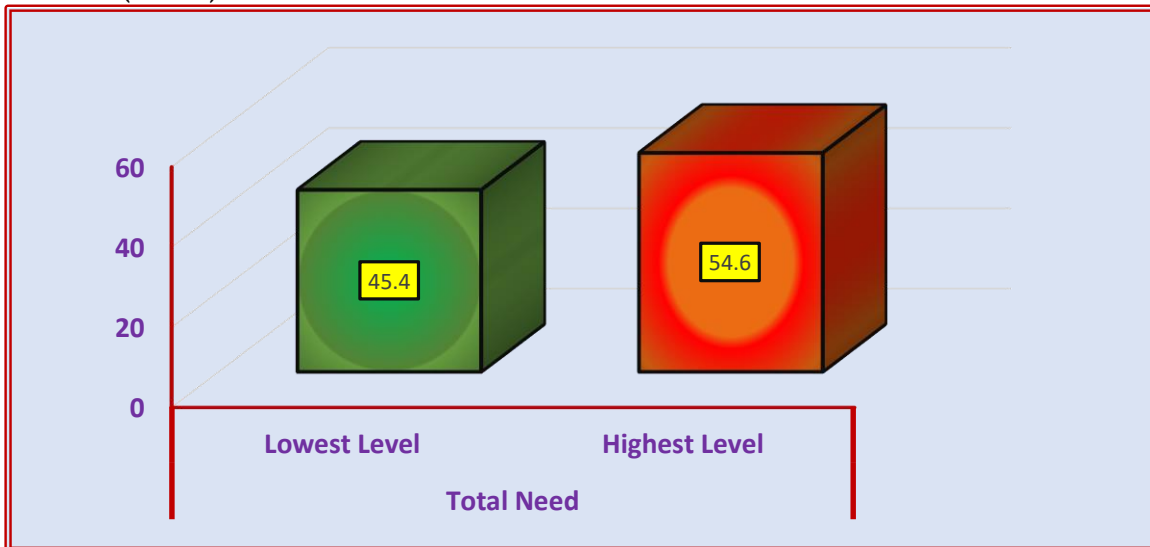


Figure (5): Clarifies that more than half (54.6%) of the studied patients with IBD had the highest level of needs.

Table (3): Relation between total level of needs and demographic characteristics among the studied patients with inflammatory bowel disease (n= 130)

Demographic characteristics	No	Level of need				x ²	P-Value
		Lowest		Highest			
		No.	%	No.	%		
Age (Year)							
▪ 20- ≤ 30	55	47	36.2	8	6.2	62.4	0.000**
▪ 31- ≤ 40	33	5	3.8	28	21.5		
▪ 41- ≤ 50	26	3	2.3	23	17.7		
▪ > 50	16	4	3.1	12	9.2		

Gender	▪ Male	61	53	40.8	8	6.2	79.8	0.000**
	▪ Female	69	6	4.6	63	48.5		
Marital status	▪ Single	36	19	14.6	17	13.1	1.21	0.750
	▪ Married	79	34	26.2	45	34.6		
	▪ Widow	12	5	3.8	7	5.4		
	▪ Divorced	3	1	0.8	2	1.5		
Occupation	▪ Employed	55	24	18.5	31	23.8	25.2	0.000**
	▪ Unemployed	31	25	19.2	6	4.6		
	▪ Worker	9	3	2.3	6	4.6		
	▪ Housewife	35	7	5.4	28	21.5		
Level of education	▪ Illiterate	22	4	3.1	18	13.8	24.1	0.000**
	▪ Read and write	29	19	14.6	10	7.7		
	▪ Technical Education	37	9	6.9	28	21.5		
	▪ High Education	35	22	16.9	13	10.0		
	▪ Postgraduate	7	5	3.8	2	1.5		
Smoking	▪ Yes	53	9	6.9	44	33.8	27.1	0.000**
	▪ No	77	50	38.5	27	20.8		

*Significant $p \leq 0.05$

**Highly significant $p \leq 0.01$

Table (3): Shows that, there was a highly statistically significant relation between demographic characteristics (age, gender, occupation, level of education and smoking) and total level of needs among the studied patients with IBD, at $P = \leq 0.001$.

Table (4): Correlational between total score of physical, psychological, social and functional needs among the studied patients with inflammatory bowel disease (n= 130)

Items		Physical needs	Psychological needs	Social needs	Functional needs
▪ Physical need	R		0.983	0.975	0.975
	P-value		0.000**	0.000**	0.000**
▪ Psychological need	R	0.983		0.959	0.982
	P-value	0.000**		0.000**	0.000**
▪ Social need	R	0.975	0.959		0.940
	P-value	0.000**	0.000**		0.000**
▪ Functional need	R	0.975	0.982	0.940	
	P-value	0.000**	0.000**	0.000**	

r-Pearson Correlation Coefficient;

*Significant $p \leq 0.05$

**Highly significant $p \leq 0.01$

Table (4): Clarifies that, there was a highly statistically positive correlation between total scores of physical, psychological, social and functional needs among the studied patients with inflammatory bowel disease at ($P = 0.000$).

Table (5): Correlational between total score of knowledge and total level of needs among the studied patients with inflammatory bowel disease (n= 130)

Variable	Total knowledge	
	R	p
▪ Physical needs	-0.915	0.000**
▪ Psychological needs	90.903	0.000**
▪ Social needs	-0.910	0.000**
▪ Functional needs	-0.876	0.000**
▪ Total needs	-0.911	0.000**

r-Pearson Correlation Coefficient;

*Significant $p \leq 0.05$

**Highly significant $p \leq 0.01$

Table (5): Illustrates that, there was a highly statistically negative correlation between total scores of knowledge and total needs (physical, psychological, social and functional needs) among patients with inflammatory bowel disease at ($P = 0.000$).

DISCUSSION

In relation to demographic characteristics of patients with IBD:

As regard to age of the studied patients, the current study result illustrated that more than two fifths of the age of the patients with IBD was between 20 - \leq 30 years old with a mean age of 34.95 ± 9.45 . From the investigator point of view, IBD can occur at any age, but are likely to develop the condition when the patients are young. Most people who develop IBD disease are diagnosed around 30 years old. These findings in the same line with Larussa, et al., (2020) who highlighted that the age of the patients with IBD was between 20 - \leq 30 years old.

While the current study result disagreed with Taxonera, et al., (2020) who found that, the average age between the studied patients was 52 years. Also, this result was contrasted with Park, et al., (2020) who revealed the mean age of the studied patients was 39.9 ± 15.0 .

In relation to gender of the studied patients, the present study result found that more than half of them were females. This result may be due to women are more likely to develop the disease than men may be due to hormones may come into play, as well as genetics, lifestyle, and environmental factors. This result was in accordance with Karimi, et al., (2020) who stated that more than half of the studied patients were females. while contrasted

with Taxonera, et al., (2020) who found that most of the studied patients were females

Considering to marital status, the current study results showed that more than two thirds of them were married. The frequency of inflammatory bowel disease (IBD) is increased after marriage. This result was supported with Costantino, et al., (2022) who displayed that, highly percentage of the studied patients were married. While contrasted with Daher, et al., (2019) who found that, more than two fifths of the studied patients were single.

In relation to occupation, the current study results showed that more than two fifths of them were employed. These results may be due to duration of disease and the studied patients in younger age group.

This result agreed with van Genneep, et al., (2020) and showed that, highly percentage of the studied patients were working. While disagreed with Guida, et al., (2021) who showed that less than one fifth of them were unemployed, also less than one fifth were retired, and about one fifth of them were homemakers.

Concerning educational level among the studied patients with inflammatory bowel disease, the current study results clarified that about two-thirds of the patients had technical education and higher education respectively. While the minority of them had postgraduate degree. This result was similar with study done by Costantino, et al., (2022) who found

that low percentage of the studied patients were graduated (university level of education). While contrasted with **Daher, et al.,(2019)**who showed that one third of the studied patients had bachelor's degree.

As regard to smoking, the current study result indicated that two fifths of the studied patients weresmokers.From the investigator point of view, this result may be due to people who smoke is more likely to develop IBD, and smoking increases the severity of the disease.This result was in the same line with **Attauabi, et al.,(2021)**who reported that more than two fifths of the studied patients were active or former smokers. While this result was contrasted with study done by **Guida,et al., (2021)**who showed that one fifth of the studied patients were smoker.

Concerning to total level of knowledge among the studied patients with inflammatory bowel disease, the current study results clarified that less than two-thirds of the patients had an unsatisfactory level of knowledge regarding inflammatory bowel disease.From the investigator point of view, this result reflects patient's needs to educational program to increase their level of knowledge about inflammatory bowel disease.

This result in accordance with **Mahfouz,et al., (2020)**whofound that,theminority of the studied participants did not have any knowledge about IBD, less than half of them had low level of knowledge and minority of them had high level of knowledge. And this result was supported with**Vernon-Roberts, et al., (2020)** who found that there was a knowledge deficiency among members of the general public in Christchurch, New Zealand.

As regard to total level of physical needs among patients with inflammatory bowel disease, the present study resultsclarified that about more than half of the studied patients with IBD had the highest level of **physical needs**.

This result was supported by **Habibi,et al., (2017)**who illustrated that the studied patients with IBD had the highlevel of physical domain. While this result was in accordance with **Pulley, et al.,(2020)**whoobserved that IBDpatients showed clinically lower QOL related to physical domain.

Concerning to total level of psychological needs among patients with inflammatory bowel disease, the current study result clarified that more than half of the studied patients with IBD had the highest level of psychologicalneed.From the investigator point of view, this result reflects patient's needs to educational program toward disease and how to deal with progress of disease.

This result was supported with **Jones,et al., (2019)**who highlighted that highly percentage of the studied patients had high level of psychological needs.

Concerning to social needs among the studied patients with IBD, the current study result illustrated that more than half of the patients with IBD had a bowel condition that prevent the patient

from going out socially some of the time. Additionally, all of the time, more than one third of them had bowel condition that affected patient leisure or sports activities and more than two fifths of them avoid attending events where there was no toilet close at hand most of time. From the investigator's point of view, this result may be due to disturbance and uncomfortable feeling and fear of people comments.

This result was matched with **Damas, et al.,(2022)**who revealed that a large proportion of patients did not attend large social gatherings, and if their disease was active, patients would socialize with friends and family even less.

As regard to total level of functional needs among the studied patients with inflammatory bowel disease, the current study result clarified that more than half of the patients with IBD had the lowest level of functional needs.

This result was supported with the study done by **Argollo, et al.,(2019)**who showed that the studied patients with inflammatory bowel disease had higher levels of functional disability.

Concerning to level of total level of needs among the studied patients with inflammatory bowel disease, the current study results found that more than half of the studied patients with IBD had the highest level of needs.From the investigator point of view, this result may be due to low level of patient's awareness and coping with inflammatory bowel disease or may be due to experience shame or humiliation.

This result was contrasted with the study done by **Jones, et al.,(2019)**whostated that the studied IBD patients had the highest level of needs.

Concerning to relation between total level of knowledge and demographic characteristics among the studied patients with inflammatory bowel disease, the current study result showed that, there was a highly statistically significant relation between demographic characteristics (age, gender, occupation, level of education and smoking) and total level of knowledge among patient with IBD, at $P = \leq 0.001$.

This result may be due to demographic characteristics effect on patients' level of knowledge as age and educational level, when increase age and educational level increase level of patients' knowledge.

This result was supported with **Mohamed, et al.,(2020)**who showed that there was statistically significant relation between socio demographic characteristics and total level of knowledge.

As regard to relation between total level of needs and demographic characteristics among patients with inflammatory bowel disease, the current study result showed that, there was a highly statistically significant relation between demographic characteristics (age, gender, occupation, education and smoking) and total level of needsamong patient with IBD, at $P = \leq 0.001$.

This result was supported with Ho et al., (2019) who mentioned that socio-demographic factors that had significant influence on patients' generic HRQoL, age had a statistically significant impact on patient's needs.

CONCLUSION

In the light of the current study findings, it can be concluded that,

More than half of the patients with IBD had the highest level of physical, psychological and social needs. Also, more than half of the patients with IBD had the lowest level of functional needs. Additionally, more than half of the patients with IBD had the highest level of needs.

RECOMMENDATIONS

Based on the current study finding the following recommendations were proposed:

- The educational media including: booklet, handouts, videos, posters and CDs, should be available for all patients at all times.
- A simple written guidelines for patients with IBD should be available in units that provide care, to be provided to newly admitted patients.
- Design educational Guidelines on therapeutic regimen compliance among patients with IBD.
- Regular follow - up for all patients with IBD to evaluate their health needs and problems and detect the complications early.

Recommendation for Further researches:

- The study should be replicated on large sample and different hospitals setting in order to generalize the results.
- Further research studies are needed to focus on measuring Quality of life for patients with IBD.

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