

## Effect of Educational Instructions on knowledge of Patients with Ulcerative Colitis



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### 1.ABSTRACT

**Background:** Ulcerative colitis is the most common type of inflammatory bowel disease affecting a person's social and psychological wellbeing, quality of life and educational performance. **Aim of the study:** Evaluate the effect of educational instructions on knowledge of patients with ulcerative colitis. **Methodology:** Quasi-experimental design was conducted at inpatient and outpatient clinic in Specialized Medical Hospital at Mansoura University. Purposive sample of 50 patients who were willing to participate in the study according to inclusion and exclusion criteria. Tool: One tool structured questionnaire sheet was used in this study. **Results:** The present study showed statistically significant improvement in patient's knowledge level noticed in posttest and follow up after implementation of educational instructions. **Conclusion:** The study concluded that there was a positive effect of educational instructions on improving knowledge level among ulcerative colitis patients. **Recommendation:** It was recommended that all ulcerative colitis

patients have access to a basic-colored educational leaflet published in simple Arabic language

**Keywords:** Educational Instructions, Knowledge, Ulcerative Colitis

### 2.Introduction:

Ulcerative colitis (UC) is a lifelong disease that has a negative influence on both physical and mental health. Patients with active disease are more likely to experience anxiety, depression, and poor social relationships or career progression as concomitant psychiatric problems. It is a chronic and relapsing gastrointestinal inflammatory condition with no cure. It causes severe morbidity, accelerates the progression of problems, and may result in death (Lynch & Hsu, 2017).

Nurses play an effective role in guiding the patient and provide advice, support, and education to patients and their family to help them understand the pathophysiology and treatment options for UC (Coenen et al., 2017).

Patient education is critical in the treatment of ulcerative colitis. It plays a significant and important part in the patient's and family's ability to cope with the disease, enhance patient understanding about the disease and treatment, adapt to lifestyle changes, promote total physical, social, and psychological well-being, increase the ability to comply with medicine and dietary regulations, support regular health checkups, extend the disease's remission duration, and prevent problems (URAN, 2020).

### Significance of the study

Ulcerative colitis (UC) is a chronic and debilitating inflammatory colon illness that affects over 900,000 people in the United States (US) and over 1.5 million people in Europe (Armuzzi et al., 2020). In the hospital, the total number of ulcerative colitis patients is about 448 during the period from January to December 2020. Maintenance of remission is the main goal for patients with ulcerative colitis. It can be achieved through improving patient's knowledge with educational Instructions. There was lack of availability of written educational instructions regarding ulcerative colitis in the hospital, and there is no clear policy regarding this issue.

### Aim of the study

To evaluate the effect of educational instructions on knowledge of patients with ulcerative colitis.

### Research hypothesis

Educational instructions will improve patient's knowledge regarding ulcerative colitis and its related treatment regimen.

### 3. Methodology

**3.1. Research Design:** Quasi-experimental study design was utilized to carry out this study.

**3.2. Setting:** This study was accomplished in inpatient and outpatient clinic in Specialized Medical Hospital at Mansoura University.

#### 3.3. Participants:

A purposive sample of 50 patients who were willing to participate in the study and fulfilling the following criteria:

#### Inclusion Criteria:

1. Adult patients of both genders aged from 20 to 60 years.
2. Able to communicate and verbalize their conditional status.

#### Exclusion Criteria:

1. Cognitive and psychiatric impairment.
2. Patients with Crohn's disease or indeterminate colitis.
3. Patients with significant comorbidities.

#### 3.4. Sample size calculation:

Sample size was calculated by PASS software for Windows (version 11.0.8). Most previous studies on ulcerative colitis patients reported treatment non-adherence rates of 30-40% (Jackson et al., 2010). We hypothesize a non-adherence rate of 40% in our patients that will decrease after intervention to 10% with none of the already-adherent patients become non-adherent after intervention. A sample size of 50 pairs achieves 80% power to detect an odds ratio of 3.000 using a one-sided McNemar test with a significance level of 0.05000. The odds ratio is

Knowledge level		
Knowledge Scale	Knowledge Score	%
Good	$\geq 33$	$\geq 75.0$
Fair	$22 \leq 33$	$50.0 \leq 75.0$
Poor	$< 22$	$< 50.0$

#### 3.6. Ethical Considerations and Human Rights

The Research Scientific Ethical Committee of Mansoura University's Faculty of Nursing provided ethical permission. Following an explanation of the study's goal, an official written authorization to carry out the study was acquired from the director of Specialized Medical Hospital at Mansoura University.

#### 3.7. Content validity

A panel of seven experts validated the tools' content by reviewing the clarity,

equivalent to a difference between two paired proportions of 0.300 which occurs when the proportion in cell 1,2 is 0.450 and the proportion in cell 2,1 is 0.150. The proportion of discordant pairs is 0.600. Taking into consideration a drop-out rate of 10%, a sample of 50 patients will be enrolled.

#### 3.5. Tools

**Tool I:** structured questionnaire sheet

It developed by the researcher after reviewing recent related literatures and it divided into two sections:

**Part 1:** Demographic characteristics and medical data.

This part of tool was used to address demographic data included age, gender, education, marital status, occupation and housing condition. It also used to assess medical data such as: diagnosis, past and present history of the disease, family history and therapeutic regimen.

**Part 2:** Patients' knowledge assessment questionnaire

This part of tool was used to assess the patient's knowledge related ulcerative colitis and its treatment regimen by using pre and posttest.

**Scoring system:** There were 18 questions whose answer was "Yes or No" in which each respondent was given one point for each correct answer and zero for an incorrect answer or missed answers, and 4 questions whose answer was multiple choices (one point for each choice). The total number of questions was 22. The total knowledge score was 44 degrees then were adjusted out of (0%- 100%) and graded as follow:

comprehensiveness, relevance, applicability, understanding, and ease of execution, and slight adjustments were made.

#### 3.8. Tool reliability

Reliability was used to evaluates the internal consistency of the tool using Cranach Alfa = 0.716. The necessary modifications were done.

#### 3.9. Pilot study

It was carried out on 10% (5) of available patients before starting data collection and they were excluded from the total studied sample.

### 3.10. Method

- Data was collected through six months from the beginning of July till December 2019.
- Patients were selected according to inclusion and exclusion criteria.
- The researcher interviewed each patient individually after clarification the nature and the purpose of the study.
- Demographic data was collected by using tool I part 1, questions related to their knowledge was answered using tool I part 2 as pretest.
- Educational instructions regarding knowledge of patients with ulcerative colitis was carried out using colored booklet in form of three session:
  - ❖ First session: a brief summary about the colon, parts of the colon, its functions, ulcerative colitis, causes, signs and symptoms, types and diagnosis.
  - ❖ Second session was about the treatment regimen of ulcerative colitis that included (medication therapy, diet therapy, and surgical management), to prevent disease progression and complications.
  - ❖ Third session was about the importance of continuous periodic follow-up for an ulcerative colitis patient. Then revision what was explained in previous sessions.
- The time consumed for each educational session was 20-30 minutes.
- Interviewed patients as a group using colored booklet and discussion.
- The patients were allowed to ask any interpretation, or explanation of any item included in the sessions.
- At the end of the sessions, a colored booklet was given to each patient.
- Posttest was taken to evaluate effect of educational instruction using tool I part 2.

### 3.11. Statistical analysis

Collected data were coded, computed and statistically analyzed using SPSS (statistical package of social sciences), version 22. Data were presented as frequency and percentages (qualitative variables) and mean  $\pm$  SD (quantitative continuous

variables). Chi square ( $\chi^2$ ) was used for comparison of categorical variables. Paired t test was used for comparison of continuous quantitative variables (two groups). The difference was considered significant at  $P \leq 0.05$ .

### 4. Results

**Table (1)** depicted the distribution of the study sample based on demographic parameters. More than half of the studied patients (54%) were males. More than three fourth of studied sample (76.0%) aged twenty to forty years with mean age was  $36.18 \pm 9.88$  years. As regard marital status, about three quarter of patients were married (76%). Additionally, (40%) of patients were secondary educated. Concerning occupation, the majority of the sample (72.0%) were not working and two thirds of the studied sample from urban areas (66%).

**Table (2)** demonstrated distribution of the examined sample based on their medical history. About one quarter of the studied patients (26%) were suffering from chronic diseases. Furthermore, more than half of the sample (56%) of patients was taking medications and analgesics without doctor's instructions. Activities of daily living affected by the disease severity in majority (92%) of the studied patients. All patients (100%) reported that the disease activity increased with eating certain types of foods and during stress. Above one third (38%) of patients had continued to take treatment while the remission of disease. Additionally, two third of the studied patients receive medications three times per day.

**Figure (1)** showed that the average total knowledge score was significantly higher after intervention and at follow up time in comparison to before intervention. Although, there is slight decrease of knowledge score at follow up time than after intervention, but this decrease was not significant. The mean after intervention and at follow up time was (28.17-26.86 respectively), but before intervention was (16.85).

**Figure (2)** illustrated that level of knowledge was significantly improved after intervention and follow up in comparison to before intervention. Fair knowledge after intervention and follow up were (74.0% - 66.0% respectively), but before intervention was (46.0%).

**Table (1) Demographic characteristics of the studied patients N= (50)**

Characters	No	%
<b>Sex:</b>		
• Males	27	54.0
• Females	23	46.0
<b>Age (years):</b>		
• 20-30	20	40.0
• 31-40	18	36.0
• 41-50	4	8.0
• 51-60	8	16.0
Mean ± SD= 36.18 ± 9.88 years		
<b>Social status:</b>		
• Single	8	16.0
• Married	38	76.0
• Widow	4	8.0
<b>Education:</b>		
• Illiterate	7	14.0
• Preparatory	14	28.0
• Secondary	20	40.0
• University	9	18.0
<b>Occupation:</b>		
• Working	14	28.0
• Not working	36	72.0
<b>Residence:</b>		
• Rural	17	34.0
• Urban	33	66.0

**Table (2) Medical data of the studied patients N= (50)**

Character	No	%
<b>Do you suffer from chronic diseases?</b>		
• Yes	13	26.0
• No	37	74.0
<b>Are you taking medications and analgesics without the doctor's instructions?</b>		
• Yes	28	56.0
• No	22	44.0
<b>Is the disease severity affected on activities of daily living?</b>		
• Yes	46	92.0
• No	0	0.0
• Sometimes	4	8.0
<b>The disease severity increases in the case of eating certain types of foods.</b>		
• Yes	50	100.0
• No	0	0.0
<b>The severity of the disease increases during stress.</b>		
• Yes	50	100.0
• No	0	0.0
<b>Do you continue to take treatment while remission of disease?</b>		
• Yes	19	38.0
• No	31	62.0
<b>How many times you receive medication per day?</b>		
• Twice	10	20.0
• Three times	36	72.0
• Five times	4	8.0
<b>What is the type of diet?</b>		
• Milk products free	23	46.0
• Salt free	0	0.0
• Sugar free	3	6.0
• Fat free	7	14.0
<b>How many meals do you eat daily?</b>		
• 1-3 meals	44	88.0
• 4-6 meals	4	8.0
• More than that	2	4.0

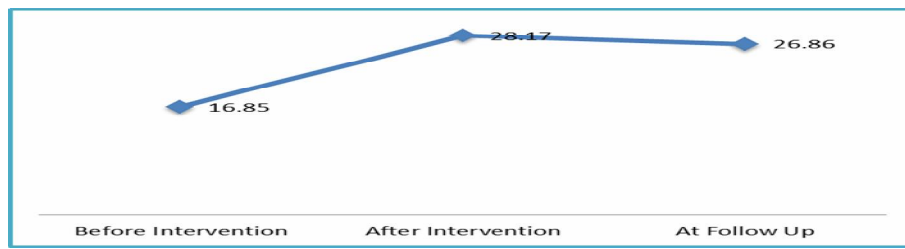


Figure (1): Average of total knowledge scores of the studied patients before and after intervention and follow up

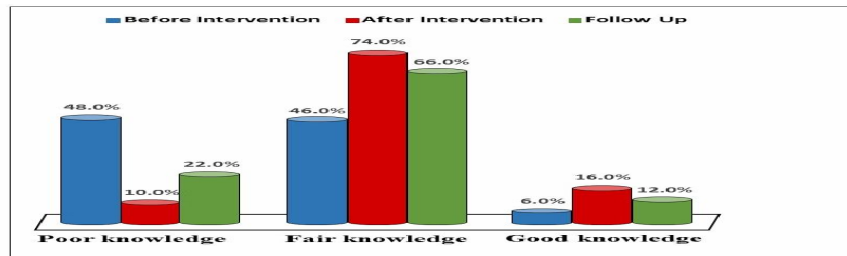


Figure (2) Knowledge level of the studied patients before and after intervention and follow up

## 5. Discussion

Ulcerative colitis is incurable, relapsing, and remitting intestinal disease that often requires lifelong treatment usage to maintain remission (Lee, 2020). Patient education has the potential to significantly increase patient knowledge and improve adherence to treatment regimen that keeping remission, improve health outcomes, prevents disease-related complications, and reinforces quality of life (Nikolaus et al., 2017).

Regarding demographic characteristics of the studied patients, the findings of the present study represented that ulcerative colitis is more common among men than women. These results agree with (Luo et al, 2018) who said that men are more susceptible to have ulcerative colitis than women. This may be due to genetic factors.

According to age, this study mentioned that ulcerative colitis is more common in people aged twenty to forty years. This is supported by (Cohn, Dave & Loftus Jr 2017) who reported that that ulcerative colitis primarily presents between twenty to forty years. This result may be due to that the rate of dependence on fast and fried foods rich in fat and hot spices increases in this period of age and increasing exposure to life stress and responsibility.

As regard to residence, more than half of the studied sample was coming from urban areas. This finding is in agreement with (Andrade et al, 2020) who mentioned that more than three quarter of his study claimed to be from an urban area. This may be due to unavailable of specialized hospitals in rural areas and Westernization of lifestyle.

The present study confirmed that the disease activity increases in all of the studied patients in case of eating certain types of foods. This is supported by (Rashvand, Behrooz, Samsamikor, Jacobson & Hekmatdoost, 2018) who reported that the consumption of an unhealthy dietary pattern was associated with a significantly increased risk of ulcerative colitis. This result could be attributed to the fact that the vast majority of the sample analysed from urban areas and middle age that depended on fast and fried foods, cola drinks, Westernization and today's changing lifestyle.

Concerning level of total knowledge, about ulcerative colitis and treatment regimen, the current study found that the majority of the patients tested had a lack of understanding about their ailment before educational instructions, while the response of them for the most questions of knowledge was highly increased just after the intervention session in comparison to their response before intervention. **This outcome is consistent with** (Magharei, Jaafari, Mansouri, Safarpour & Taghavi, 2019) who clarified that educational program has an effective role in increasing the patients' knowledge and support for effective communication with the nursing staff. Also, it has a positive role in reducing physical, psychological and social problems of patients with ulcerative colitis.

Additionally, (Ashok et al, 2017) recognized that Knowledge of patients about their disease and medications were insufficient during baseline visit. After educating the patient and providing them with educational materials, there was significant improvement in patient knowledge about ulcerative

colitis and treatment regimen.

## 6. Conclusion

It can be concluded that:

Most of the studied patients had inadequate knowledge regarding ulcerative colitis pre-educational instructions which improved post and follow up implementing educational instructions, there were a statistical significance positive effect on patient's knowledge.

## 7. Recommendations

- 1- Continuous educational instructions for patients about ulcerative colitis to keep them up to date with the disease and it are a fundamental part of their treatment.
- 2- Replication of the current study on a bigger probability sample.

## 8. Limitation of the study

The purposive sample used in the study may not have been representative of all patients suffering from ulcerative colitis in other hospitals and may diminish the applicability of the findings in general.

- It was difficult and time consuming to persuade the patient to follow ulcerative colitis educational program.

## 9. Acknowledgments

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