Evaluation of Clinical Characteristics and Knowledge in Inflammatory Bowel Disease Patients

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ABSTRACT

BACKGROUND

Chronic conditions of Ulcerative Colitis and Crohn's Disease with unknown aetiology and relapse were collectively known as inflammatory bowel disease (IBD). The occurrence of the disease in recent years has increased in developing countries like India with the higher rate of prevalence. The objective of the study was to evaluate the sociodemographic, clinical characteristics and knowledge in inflammatory bowel disease at a tertiary care hospital and also associate the variables with the disease and knowledge that was provided with pictorial education. Significantly, knowledge about the clinical condition and informational demands have hitherto not been studied in south India.

METHODS

This was an observational and nonrandomized study in 54 inflammatory bowel disease patients which was conducted from November 2018 to December 2019 at a tertiary care hospital. We obtained the patients sociodemographic and clinical characteristics through patient's proforma and evaluated the patient's disease knowledge using the validated questionnaire through direct interview method. Once after collecting the baseline information, patients were educated and provided with pictorial leaflets.

RESULTS

After the recruitment of 54 patients, there were 26 (48.6 %) ulcerative colitis patients and 28 (51.4 %) Crohn's disease patients. Among inflammatory bowel disease patients, location of ulcerative colitis was maximum in pancolitis portion with mean of 16.00 ± 1.46 and the location of Crohn's disease was maximum in ileac part with a mean of 15.91 ± 1.97. Insufficient knowledge of disease was observed during baseline visit but there was a slight improvement in the post visit after the pictorial education. The mean knowledge score during the baseline visit was 9.56 ± 3.26 and in the post visit period was 15.17 ± 1.16

CONCLUSIONS

This study suggests that pictorial education may improve knowledge and empower the patients by reducing the risk of various complications of the disease, as increasing trend of the disease can be managed by better outcome with the healthcare members.

KEY WORDS

Inflammatory Bowel Disease (IBD), Sociodemographic Features, Clinical Characteristics and Knowledge

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BACKGROUND

Chronic relapse and remission of Inflammatory bowel disease (IBD) is comprised of Crohn's disease (CD) affecting the entire gastrointestinal (GI) tract and ulcerative colitis (UC) which mainly affects the colon and rectum.[1] Asia and Africa have shown an increasing trend in the occurrence and rate of prevalence in inflammatory bowel disease. Though there have been numerous epidemiological studies on inflammatory bowel disease the aetiology of the disease remains unclear with increased burden at a rapid pace in India and other Asian countries. Therefore, in the twenty first century inflammatory bowel disease has become a global disease with a large sociodemographic burden. Life threatening severe illness occurs with the wide range of clinical spectrum of inflammatory bowel disease from asymptomatic condition. The onset of the disease typically affects the life of young adults and with persistent condition of the disease, there is a need for physician visit, lab tests, diagnostic procedures, hospitalization, and surgical procedures which significantly affects of the patients with inflammatory bowel diseases that may require expensive medical and surgical interventions.[2] Wellness 365, is a community representation of Indian medical professionals and practitioners, carried out the study and estimated that 1.5 million of Indian patients were affected with inflammatory bowel disease which was second to the USA with 1.6 million IBD patients. Also, study states that Indians are at a greater risk in getting the inflammatory bowel disease which increased with a single digit high rate as revealed by the Hindu Business line on 19 May 2020 which highlighted that the people were in need of awareness and medical intervention to overcome the problems of ulcerative colitis and Crohn's disease.[3]

Inflammatory bowel disease is a disorder which typically affects the people during their younger age as well as in the earning period of the lifetime. Specific information about the disease being perceived as important in improving drug compliance and satisfaction in overall care of the patients.[4] Earlier study states that patient was less anxious, more compliance on receiving disease related information with reduced physician visit and lower cost on patient treatment. Effective coping in inflammatory bowel disease patients enables appropriate knowledge and information before they visit doctors.[4] Indian Society of Gastroenterology (ISG) task force in 2012 states that most of the patients from India had extensive colitis 42.8 %, distal colitis 38.8 % and proctitis with 18.3 %. Inflammatory bowel disease patients experience the defects in intestinal epithelial barrier function with symptoms like abdominal pain, vomiting, diarrhoea, and blood in stools which were observed in various patients.[6] Ulcerative colitis patients experienced lower abdominal pain in the left part along with diarrhoea which resulted in weight loss and blood on rectal examination. But patients with Crohn's disease experienced lower abdominal pain on right side and rectal bleeding was lesser than in ulcerative colitis. Bowel wall thickening due to the swelling of intestine with the blockade was the most common complication in Crohn's disease.

Malnutrition or the presence of nutritional deficiencies were encountered in most of the inflammatory bowel disease patients due to poor absorption.[7] A study on colorectal examination revealed a small bowel cancer in Crohn's disease. People suffered from co morbidities like cardiovascular disease and respiratory disease. Increased risk of death was found in people with the Crohn's disease which was reported in several studies.[8]

In Western countries they conducted population - based studies wherein the extent of disease in ulcerative colitis was comprised with 30 % - 60 % of patients with proctitis, left - sided colitis in 16 % - 40 % of case and about 18 % - 35 % of extensive colitis respectively. But in Asia, patients with proctitis in 25 % - 43.7 %, left side colitis in 31.0 % - 31.4 %, and extensive colitis in 24.9 % - 39.0 % among population-based studies respectively. In Asian hospital-based studies the trend was towards the lower proportion as proctitis patients with 8.5 % - 38.4 %, higher proportion of left - sided colitis in 29.7 % - 70.2 %, and similar proportion of extensive colitis in 21.3 % - 42.4 % of patients resembling to the population-based studies which indicated more severe cases.[9] Inflammatory bowel disease patients are at a risk of serious complications when the disease is poorly managed. Currently, there was evidence supporting the fact that the quality of life was better achieved at a higher level with disease related knowledge. Ability of the patients for self-management of the disease was vital in the case of disease related knowledge levels in IBD patients. In poorly controlled disease, risk increases with serious and often irreversible negative outcomes which lead to death.[7]

Knowledge of diet and IBD complications was better than the components of general questions of IBD (including anatomy) and medication, but the scores for both components was lower than the knowledge of IBD patients in the articles published in two western studies. Patients with ulcerative colitis require adequate control from prevention of adverse health outcomes in specific to its disease effects and the management.[9] Decision-making abilities about knowledge in anatomy of gastro-intestinal system are important in patients for consideration of different surgical procedures. Key factors in successful management of IBD are the regular follow up and proper medical compliance for the reduction in frequent relapse of the disease.[11] In chronic illness condition, medication adherence and the patient satisfaction about their treatment shows positive impact with disease specific information. Disastrous consequences occur when there is a lack of knowledge in IBD complications by underestimation on the importance of colorectal cancer screening.[12] In 2017, Indian Medical association described, that there was no awareness on seriousness and symptoms of inflammatory bowel disease. According to Statistical survey from India, 50 lakh people around the world have been exceeding the IBD cases of 12 lakhs annually.[13] By incorporating this information, the research was possibly explicated on the role of sociodemographic features, clinical characteristics, and knowledge about inflammatory bowel disease at a multispecialty hospital.

METHODS

The observational study was carried out in the Department of Gastroenterology, Kovai Medical Centre and Hospital, Coimbatore, Tamilnadu on inflammatory bowel disease patients from November 2018 to December 2019. Prior to the commencement, the ethical clearance was obtained from Institutional human ethical committee (Proposal no: EC / AP /

591 / 10 / 2018). A total of 54 inflammatory bowel disease patients were enrolled for the study through convenient sampling technique diagnosed with either Crohn's disease or ulcerative colitis.

Inclusion Criteria

Adults aged 18 years and above from both genders.

Exclusion Criteria

- Pregnant women
- Paediatric patients
- Irritable bowel syndrome
- Patients with severe physical illness
- Patients who lack cooperation

A complete baseline investigation including sociodemographic and clinical characteristics was recorded in a predesigned and pretested Performa. All the eligible study subjects after fulfilling the selection criteria were screened by the gastroenterologist during their routine clinical practice. Patients received standard care of treatment from the consultant gastroenterologist and patient education by the clinical pharmacist. Specially designed pictorial patient information leaflets prepared and validated in English and Tamil version were provided to the patients throughout the patient counselling period.

Apart from the care by the gastroenterologist, disease related knowledge was counselled by the clinical pharmacist for all the patients to make aware of the disease. Knowledge was assessed before and after educating the inflammatory bowel disease patients with pictorial leaflets. The study was an observational and nonrandomized technique used in sampling the patients. Four areas of knowledge on inflammatory bowel disease management were assessed using the questionnaire with 24 questions, comprising of 11 questions with general IBD knowledge, 2 questions on diet, 5 questions related to treatment and 6 questions about inflammatory bowel disease complications. Outcome of knowledge was scored with one point for each correct answer with the maximum possible score as 24 and 0 as worse outcome. Lowest scores stipulate the poor knowledge about inflammatory bowel disease.

Statistical Analysis

Microsoft Excel Worksheet was used for coding and entering the data. Statistical analysis was performed using IBM statistical package software. The categorical data was exhibited as percentage and proportions. The mean ± standard deviation (SD) was given for continuous data to find the demographic character, clinical characteristics with knowledge score. Paired t test was used for comparison of knowledge between pre visit and post visit of IBD patients.

RESULTS

Out of total 54 patients, 48.6 % were ulcerative colitis patients and 51.4 % were Crohn's disease patients in the study. There were equal numbers of male and female patients in which majority of patients fall within the age group of 20 - 40 years 47.3 % (Figure 1). In the disease pattern, male patients with 28.38 % were having ulcerative colitis and 21.62 % were having Crohn's disease and in the females 20.27 % of ulcerative colitis patients and 29.73 % of patients with Crohn's disease.

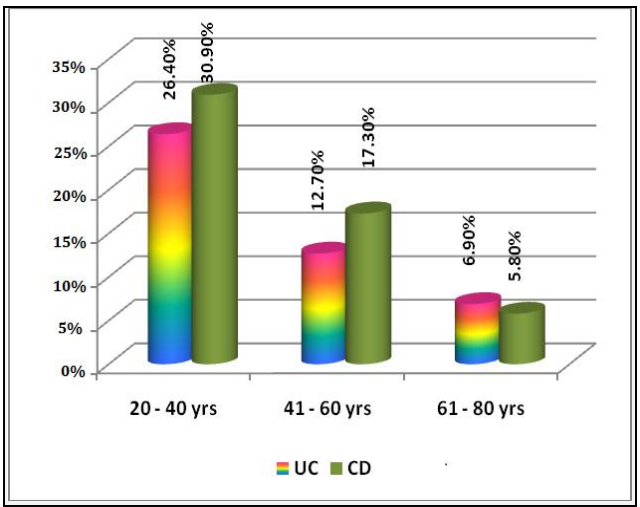

Figure 1. Y-Axis- Percentage, X- Axis- Age of the Patients in Years

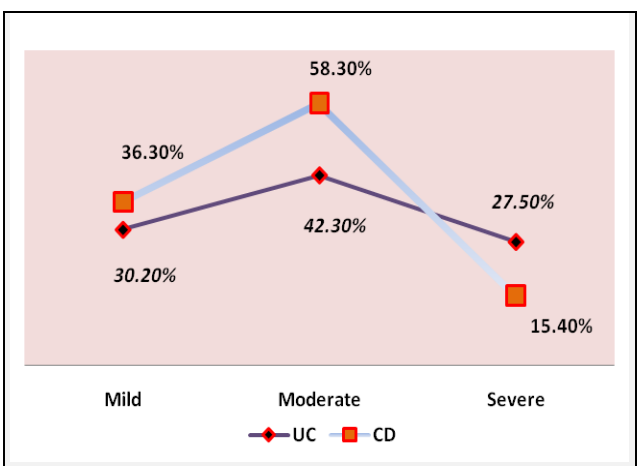

Figure 2. Disease Severity in Inflammatory Bowel Disease

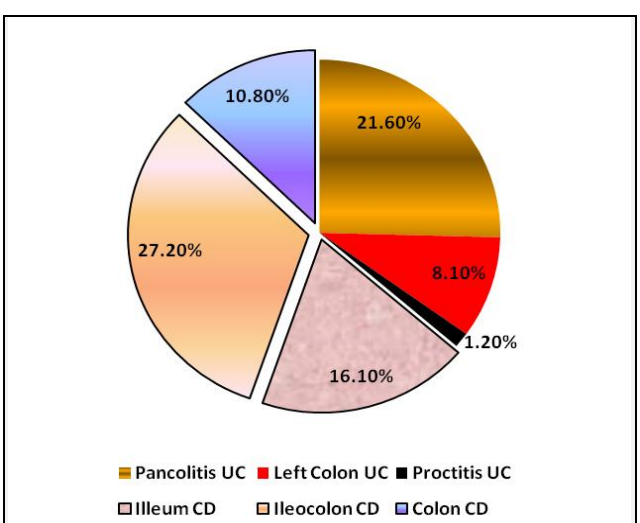

Figure 3. Disease Location in Ulcerative Colitis & Crohn's Disease

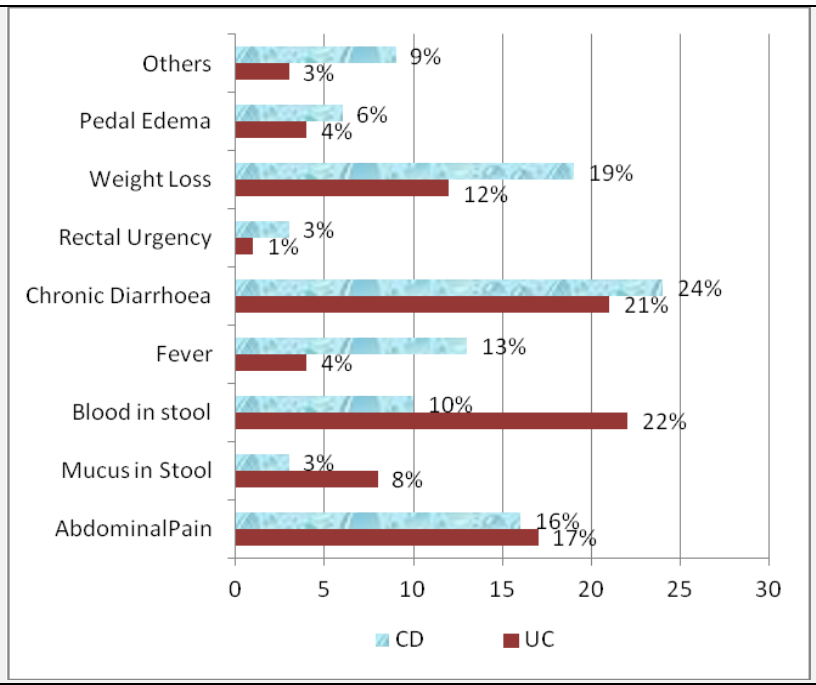

Figure 4. Clinical Characteristics in Inflammatory Bowel Disease

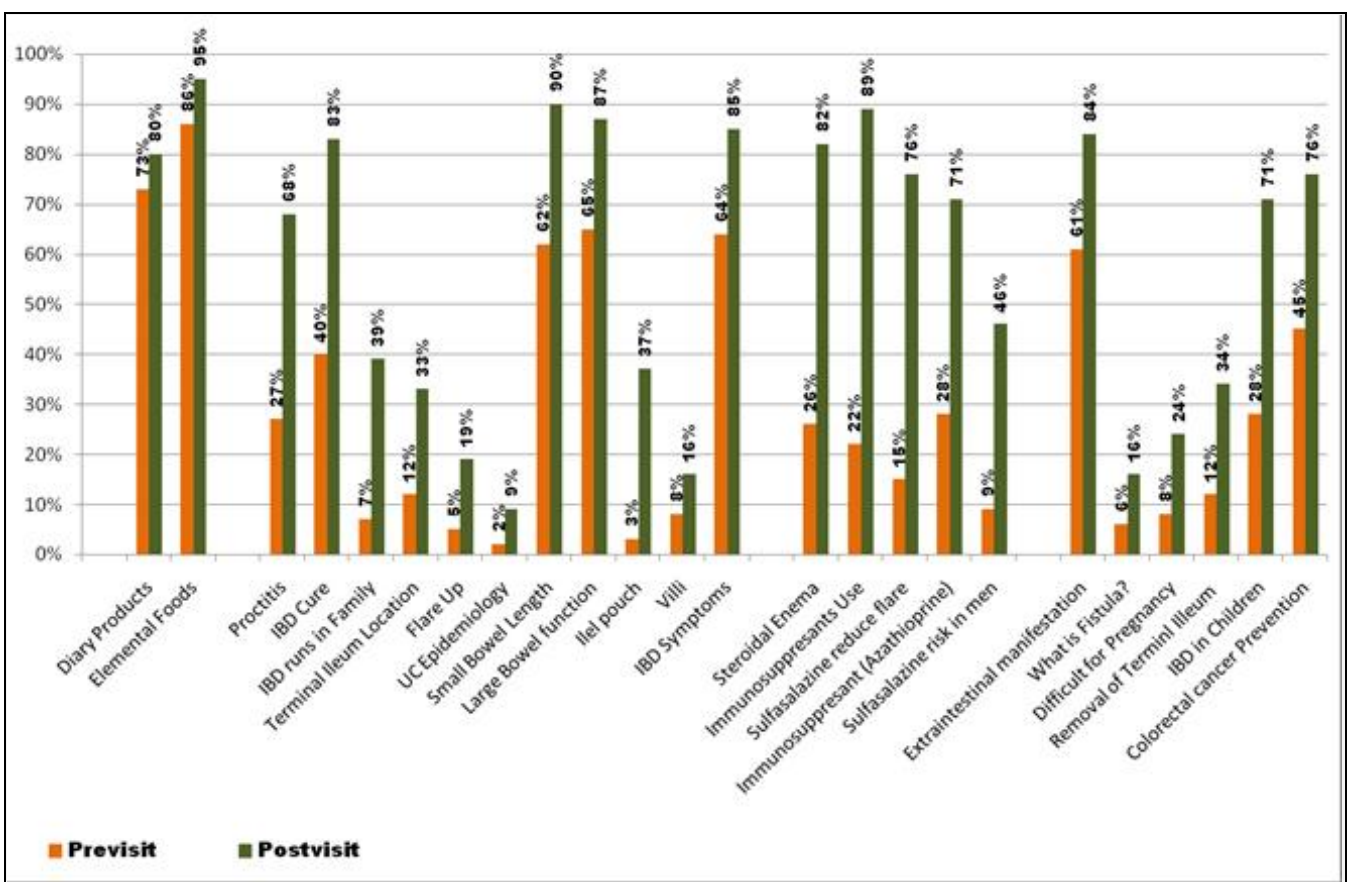

Figure 5. Y- Axis: Percentage; X- Axis: Knowledge with Corrected Answer during Pre-Visit and Post Visit

Regarding the educational status of the patients, majority of them, around 45 % completed primary education, 42 % of them completed secondary education and 13 % completed higher education. Based on lifestyle of the patient, intake of coffee was seen in 68.9 % patients, non-vegetarian food in 83.8 %, tea in 32.1 % and vegetarian foods in 16.2 % of patients. Alcohol consumption intake was seen in 35.4 %, smoking habits in 36.9 % with non-alcoholics as 64.6 % and non-smokers 73.1 % in this study.

On assessment of family history, 29 % of the patients presented with history of Inflammatory bowel disease in first degree relatives of Crohn's disease patients. Duration of inflammatory bowel disease in patients resulted as 43.2 % in one to six months, 22.3 % in seven months to one year and 36.5 % in more than 1 year of disease diagnosis. Severity of

the disease was categorized as mild, moderate, and severe Crohn's disease and ulcerative colitis as given in (Figure 2).

In inflammatory bowel disease, the location of ulcerative colitis was observed more in pancolitis with median of 16.00 ± 1.46 in 21.6 % than the location of left colon with the median of 17.83 ± 1.32 in 8.1 % and 16.2 % in proctitis with the median score of 16.50 ± 1.50. But in Crohn's disease 16.2 % of patients were affected with the median of 15.91 ± 1.97 in ileal portion, 27.2 % in ileocolonic portion with median of 15.75 ± 2.48 and 16.8 % in colonic region with 16.25 ± 3.61 (Figure 3) . The patients' presentation with clinical features during admission in both ulcerative colitis and Crohn's disease was given respectively (Figure 4).

On analysing the demographic characteristics and knowledge score, male patients showed the mean score of 1.95 ± 0.72 and the female patients with the score of 1.78 ± 0.58. Patients with Crohn's disease had higher median score 18.63 ± 1.64 than the patients with ulcerative Colitis 16.73 ± 2.50. Duration of inflammatory bowel disease was grouped into 4 subdivisions, in which period > 1 yr. had the higher mean score of 16.25 ± 1.70. The mean knowledge score during the baseline visit was 9.56 ± 3.26 and in the post visit period of 15.17 ± 1.16 respectively. According to the questions, during the baseline visit the percentage of inflammatory bowel disease knowledge varies from 0 % to 86 % with less than 50 % correct answers for 18 out of 24 questions. The knowledge level was reassessed after educating the patients and it ranged from 2 % to 95 %, among all the questions only 11 questions got less than 50 % of correct answers during post visit period (Figure 5). The knowledge level was compared between pre-visit and post-visit with paired t test (T = 11.9139) and there was statistically significant difference between knowledge levels (P < 0.0001).

DISCUSSION

In the present study gender distribution of patients showed a higher proportion of Crohn's disease in females than ulcerative colitis in males that reveals the same as the study conducted by Bernstein et al.[14] Traditionally inflammatory bowel disease is thought to be uncommon in India; but subjectively Indian gastroenterologist reports the occurrence of Crohn's disease with few cases in India than the western countries resembled Desai & Gupte.[15] In this study Crohn's disease was more common in 52.4 % than ulcerative colitis 48.6 % which shows the vast geographic changes in the frequency of Crohn's disease to ulcerative colitis ratio among Asian countries and even among different countries similar to the study by Yoo-YS et al.[16] Knowledge level for the female patients was more than the males which may be due to the interest by female patients in acquiring sufficient knowledge about the disease related factors like harmful effects that may occur during pregnancy. Most of the population in this study are from 20 - 40 years with the mean age of 4.17 ± 0.36. Young adults acquired greater knowledge score in this study as the patients were in need of additional information in effective disease management than other patients which may be due to active participation in social activities. In this study only 16.2 % patients had appendicitis that resembled with the study by Anaa Catarina C L, et al. and the result showed that appendectomy seems to be positively associated with the development of Crohn's Disease, in such case appendectomy should be avoided to prevent worsening of the prognosis of inflammatory bowel disease. The extent of ulcerative colitis with proctitis, colitis, pancolitis in this study was similar to that reported in another study from Ling KL, et al.[17]

General knowledge of inflammatory bowel disease and medications was better than the knowledge about complications and in questions related to the treatment, most of the patients realized on the target of immunosuppressants, common inflammatory bowel disease symptoms and extra intestinal manifestations. From this study, it was identified that the deficit and lack of knowledge of patients about inflammatory bowel disease complications may lead to unpredictable consequences. Requisite of patients to be informed on relevance of cancer screening but only 45 % patients knew that prolonged disease can elevate the colorectal risk of cancer in which the reports were greater than the study by Eaden, et al.[18]

Constructive impact was identified in the knowledge of inflammatory bowel disease patients after providing the education with pictorial information leaflets. During post visit, reassessment of questionnaire was done, so that percentage of the correct answer was increased for each question.

CONCLUSIONS

Empowering and engaging with the patient education are at the core for management of disease, insufficient knowledge of patients during baseline study may be improved after using pictorial leaflets as educating material in the post visit of the patients. The present study states that knowledge related to disease, lifestyle and management of disease may bring about the major changes in the improvement of inflammatory bowel disease to significant level. Education plays a vital role for the better patient care with the assistance of health care team. Among health care workers, pharmacists work up with the educational materials in regard to disease specific information, compliance to therapy and overall care in improvement of the patient condition. In the aspect of wellness of the patients and reduction in complication by initiating the importance of regular follow up may prevent the carcinoma in future.

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