

Incidence of inflammatory bowel disease: a single centre retrospective study

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ABSTRACT – Background – Inflammatory bowel disease (IBD) is a chronic inflammatory disorder affecting the gastrointestinal tract. The etiology of this alarming condition is multifactorial. A Recently increasing trend in IBD is noted in our country. **Objective** – The present study was designed with the main objective to assess the incidence and to identify the associated risk factors including demographic, geographical areas, and dietary patterns of IBD population of Northern of Karnataka *viz.* Hubli-Dharwad city. **Methods** – A retrospective investigation was conducted on a cohort of 226 patients with a working diagnosis of IBD and those who were admitted between 2015 to 2019 the department of gastroenterology, SDMCMS&H. The diagnosis of IBD was made based on clinical, radiological, endoscopic, and histopathologic findings. The patients were categorized into IBD and those who have symptoms suggestive of IBD but did not fit into the diagnostic criteria into, non-IBD groups. The data about of on demography, diet patterns, and laboratory parameters were recorded. **Results** – Among 226 patients enrolled in this study 2015–2019, IBD was confirmed in 54 Ulcerative colitis - 44 (19.46%), Crohn's disease – 10 (4.42%) patients with varying distribution of disease among different age groups and both genders, Ulcerative colitis (UC) [M: F: 28 (63.6%): 16 (36.4%)] and Crohn's disease (CD) [M: F: 07 (70.0%):03 (30.0%)]. Dietary pattern and other habitats had no significant contribution to illness and its symptoms. Urban (U) and Rural (R) divide was UC [U: R: 32 (72.7%): 12 (27.3%)], CD [U:R:07(70.0%):03(30.0%)] maintained. **Conclusion** – Incidence of IBD was high with UC as compared to CD. The incidence of IBD among patients presenting with symptoms suggestive of IBD is 19.46% with UC being major as compared to CD (4.42%). Male predominant patterns of IBD incidences were noted. Year by year increasing trend in disease burden was observed. The Dietary pattern has no direct correlation with IBD disease prevalence and incidences.

Keywords – IBD, Crohn's disease; Ulcerative colitis; Karnataka; retrospective.

INTRODUCTION

Inflammatory bowel disease (IBD) denotes a group of disorders *viz.* Crohn's disease (CD), Ulcerative colitis (UC), and other forms known as indeterminate colitis (IC) are characterized by chronic intestinal inflammation. The incidence of IBD in the latter half of the 20th century increased significantly in the western world, which has caused the prevalence to exceed 0.5% in America⁽¹⁾. The prevalence of IBD in the western world is about 50–200 per 100,000 persons for CD and 120–200 per 100,000 persons for UC. Furthermore, the incidence and prevalence rates of IBD have shown an increasing trend in Asian and African countries as well. Therefore, IBD has become a global disease in the 21st century with a large socio-economic burden⁽²⁾.

The global prevalence of UC has been reported to range from 24.3 and 20.2 per 100,000 person-years with the highest incidence reported in North America and Northern Europe⁽³⁾. UC is currently a more prevalent disease in developed countries. Moreover, the incidence is constantly increasing globally, particularly in regions that previously had low incidence rates, including Asian and South American countries⁽⁴⁾.

The incidence rate of CD in western countries has demonstrated

a significantly increasing trend and it varies from 0.3 to 12.7 cases per 100,000 persons in Europe and 0 to 20.2 cases per 100,000 persons in North America. In concurrence with Western countries, the incidence of CD is steadily increasing in Asian countries in recent years⁽⁵⁾.

This epidemiological shift, which is being seen in newly industrialized countries and Asian immigrants to the West, reported five decades ago from Western countries mirrors the experience reported association of disease with rapid socio-economic development⁽⁶⁾.

The incidence and prevalence rates of IBD in Asian countries are relatively low as compared to those of Western countries; however, the rapidly increasing trend has been noticed during the past decade. There are variations observed within the incidence and prevalence rates of IBD among different races or ethnic groups in Asia, with the highest rates in India, Japan, and the Arab world⁽⁷⁾. In England, studies have indicated that the incidence of UC among migrant South Asians was more than that of native Europeans, indicating that South Asians are genetically susceptible to UC⁽⁸⁾. With increased urbanization and industrialization, developing Asian countries like India and China have witnessed a parallel rise in the disease burden of IBD⁽⁹⁾.

In developing countries where IBD is emerging, UC is the most

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common disease than CD. In India, the incidence of UC reported was (6.02 per 100,000), which was much lower than in the US (8.8 per 100,000) and Sweden (20 per 100,000). The incidences of CD in the US was highest with 0.8 million as compared to India with 0.3 million incidents. Interestingly, despite much lower CD incidence and prevalence compared to Sweden, China and Japan have a burden of CD with 4.5 times and 3 times higher respectively⁽¹⁰⁾. Increasing incidences of UC and CD in the Asia-Pacific region including India delineated that the illness and its associated economic burden continue to grow⁽³⁾. An observational study carried out by Nagesh et al., at a tertiary care hospital, Kasturba Hospital, Manipal, Karnataka during the period 2014 to 2016 including local, regional and neighboring states have reported UC and CD prevalence of (72.88%) (29.8%) respectively. These findings depicted the first panoptic health economic study of IBD from India indications of the costs are driven by medication, productivity losses, and not merely hospitalization alone⁽¹¹⁾. Similarly, a study from Uttar Karnataka, the Southern part of India reported the prevalence of UC and CD of 93.4% and 6.6% respectively between 10 years period from 2009 to 2019. With this scenario, the present study single centre retrospective study was designed with the main objective to assess incidences of IBD population in Northern Karnataka viz Hubli-Dharwad city.

METHODS

Ethical approval

The present study was approved by the Institutional Ethics Committee of SDM College of Medical Science, Shri Dharmasthala Manjunatheshwara University, Dharwad (IEC. No. SDMIEC: 231:2019).

Collection of data

The information of 226 patients was collected from the medical records of the tertiary hospital, SDM College of Medical Sciences and Hospital, Hubli-Dharwad North Karnataka, India. The patient information like demographics (gender and age), clinical diagnosis (endoscopy, laboratory findings and histopathology reports), diet pattern, etc. were collected from the medical records, retrospectively.

Statistical analysis

The data was entered in a Microsoft excel sheet and was analyzed using SPSS (Statistical Package for Social Sciences) version 22 software cross-tabulation analysis. The categorical data was represented in the form of frequency and percentage.

RESULTS

In the present study, information from 226 patients was retrospectively collected from the medical record department of SDMCMS&H from the year 2015 to 2019. Following the collection of information, patients were categorized into two groups, IBD and non-IBD based on the symptoms suggestive of IBD, clinical, endoscopic, and histopathological reports.

Demographic characteristics

The majority of the study subjects i.e., 172/226 (76.10%) were non-IBD followed by 44/226 (19.46%) and 10/226 (4.42%) suffering from UC and CD respectively (TABLE 1). The socio-demographic characteristic of UC patients was depicted in (FIGURE 1E).

Major findings revealed that among a total of 44 UC cases, the highest rate of incidences (17nos) of UC was observed in the year 2019 (FIGURE 1A). The majority of the UC patients i.e., 24/44 belonged to the age group of >40 years followed by 18/44, and 2/44 belonged to the age group of 17–40 years and <17 years respectively (FIGURE 1B). Male predominance (28/44) of UC patients was observed as compared to females (16/44) (FIGURE 1C).

TABLE 1. Distribution of study subjects based disease.

Disease	Total cases	Percentage
Ulcerative Colitis	44	19.46 %
Crohn's Disease	10	04.42 %
Non-IBD form	172	76.10%
Total	226	100%

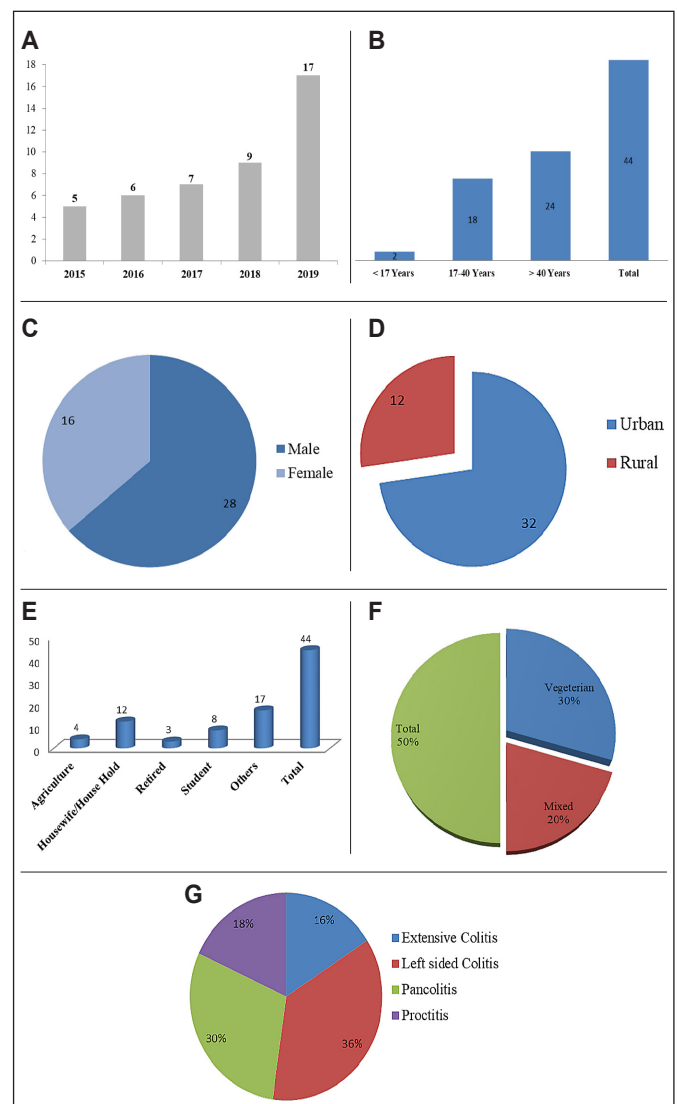


FIGURE 1. Showing demographic parameters of Ulcerative colitis. A) Incidence of Ulcerative with respective to year. B) Ages distribution of Ulcerative colitis cases. C) Gender distribution of Ulcerative colitis cases. D) UC disease distribution in the environment. E) Occupation distribution of Ulcerative colitis cases. F) Diet intake profile of Ulcerative colitis cases. G) Distribution of colonoscopy diagnosis for Ulcerative colitis patients.

The majority of UC patients i.e., 32/44 were from urban; while 12/44 belonged to rural places (FIGURE 1D). The majority of UC patients i.e., 36% were diagnosed based on colonoscopy with left-sided colitis followed by 30%, 18%, and 16% were diagnosed with pancolitis, proctitis, and extensive colitis respectively (FIGURE 1G). Diet intake profiling of UC patients was represented in the FIGURE 1F.

The socio-demographic characteristic of CD patients was depicted in (FIGURE 2E). Major findings revealed that among a total of 10 CD patients, the highest rate of incidences (4nos) of CD was observed in the year 2018 (FIGURE 2A). The majority of the CD patients i.e., 7/10 belonged to the age group of >40 years followed by 3/10 belonged to the age group of 17–40 years (FIGURE 2B). Male predominance (7/10) of CD patients was observed as compared to females (3/10) (FIGURE 2C). The majority of CD

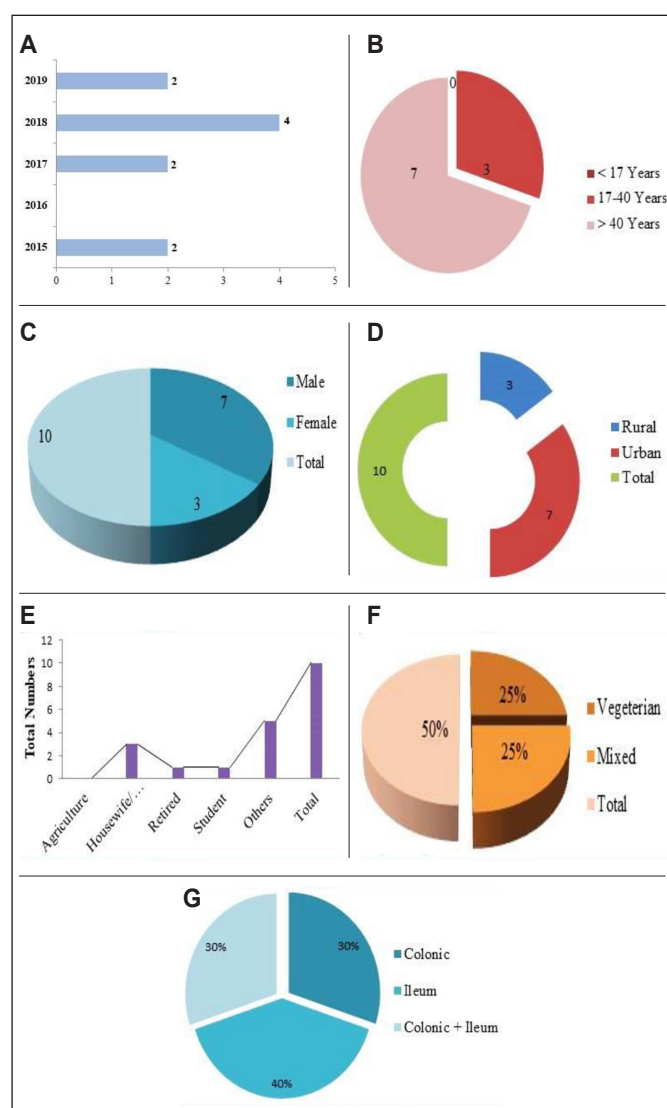


FIGURE 2. Showing demographic parameters of Crohn's disease. A) Incidence of the Crohn's disease with respect to year. B) Age distribution of Crohn's disease cases. C) Gender distribution of Crohn's disease cases. D) Crohn's disease distribution in the environment. E) Occupation distribution of Crohn's disease cases. F) Dietary intake pattern of Crohn's disease cases. G) Distribution of colonoscopy diagnosis of Crohn's disease cases.

patients i.e., 7/10 were from urban; while 3/10 belonged to rural places (FIGURE 2D). The majority of CD patients i.e., 40% were diagnosed based on colonoscopy with colonic + ileum followed by 30% each was diagnosed with colonic and ileum, (FIGURE 2G). The dietary intake profiling is equal distributed among CD patients (FIGURE 2F).

Similarly, a socio-demographic characteristic of non-IBD patients was depicted in (FIGURE 3E). Major findings revealed that among a total of 172 non-IBD patients, the highest rate of incidence (100nos) of non-IBD patients was observed in the year 2018 (FIGURE 3A). The majority of the non-IBD patients i.e., 99/172 belonged to the age group of >40 years (FIGURE 2B). Male predominance (105/172) of non-IBD patients was observed as compared to females (67/172) (FIGURE 3C). The majority of CD patients i.e., 107/172 were from urban; while 65/172 belonged to rural places (FIGURE 3D). Dietary intake profile in case of non-IBD were represented in the FIGURE 3F.

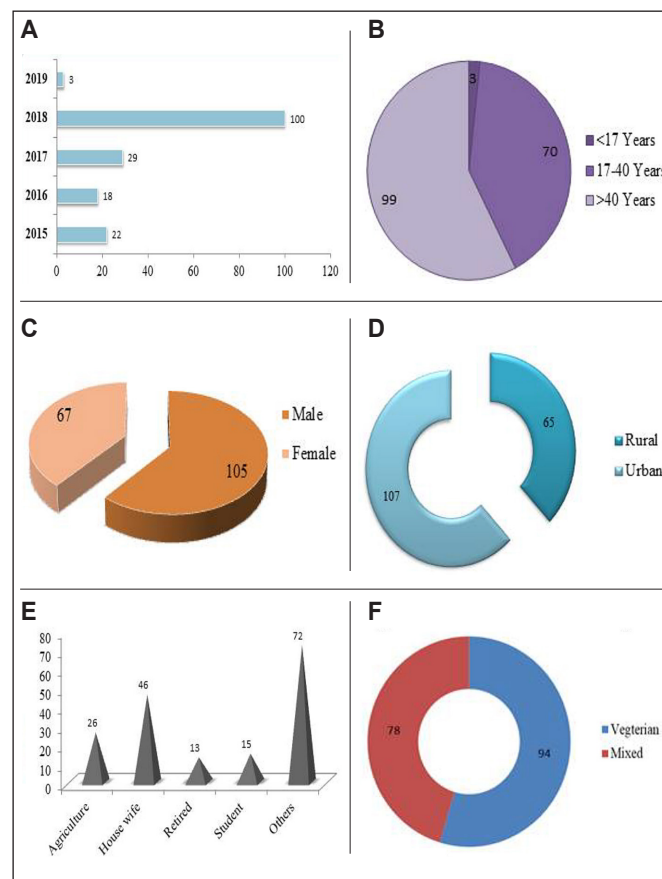


FIGURE 3. Showing demographic parameters of Non-IBD forms. A) Incidence of non-IBD case with respect to year. B) Age wise distribution of non-IBD cases. C) Gender distribution of non-IBD cases. D) non-IBD cases distribution in the environment. E) Occupation distribution of non-IBD. F) Diet intake pattern of non-IBD.

Clinical manifestations

The results of incidences of clinical manifestations observed were represented in TABLE 2. These findings revealed that incidences of diarrhea were found to be the most common clinical manifestations observed in all forms of diseases i.e., IBD [UC (88.6%) and CD (80%)] and non-IBD (71.50%) form followed by

TABLE 2. Distribution of study subjects based on incidences of clinical manifestations.

Symptoms	(Ulcerative colitis) %	(Crohn's disease) %	(Non-IBD) %
Diarrhea	88.6	80	71.50
Mucus	11.4	20	10.23
Blood in stool	34.1	10	12.20
Pus	9.1	Nil	1.74
Watery	20.5	03	15.69
Abdominal pain	50	30	60.46
Vomiting	20.5	Nil	12.79
Constipation	6.8	10	11.62
Weight Loss	36.4	30	19.18
Fever	25	20	5.81
Loos of appetite	9.1	10	9.3

abdominal pain and weights loss. In UC patients, incidences of blood in stool were the second most clinical manifestation observed followed by fever (25%), watery and vomiting (20.5%), presence of mucus in the stool (11.4%), loss of appetite and pus in the stool (9.1%), and constipation (6.8%).

In CD patient incidences of the presence of mucus in stool and fever (20%) were the most common clinical manifestation observed followed by blood in stool, constipation and loss of appetite (10%) and incidences of watery stool was observed in 3% of CD patients. In non-IBD incidences of the presence of watery stool (15.69), and weight loss (19.18).

Biochemical parameters

The distribution of study subjects is based on the incidences of biochemical parameters *viz.*, erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), hemoglobin (Hb), packed cell volume (PCV), platelet count (PC), white blood count- total count (WBC-TC), alkaline phosphatase (ALP) and albumin corresponding in UC, CD and non-IBD forms was as represented in TABLE 3. Results revealed that incidences of ESR and CRP in majority of UC patients (34.1% & 36.4%), CD patients (30% & 50%) and non-IBD (47.67% & 80.23%) was found to be in the range of 0 to 5 respectively.

An incidence of Hb was found to be in the range of 9.1 to 11.9 in a majority of UC patients (40.9%), CD patients (50%), and non-IBD patients (30.81%). Incidences of PCV were found to be in the range of 31 to 40 in a majority of UC patients (43.2%), CD patients (70%), and non-IBD forms (47.67%). Incidence PC was found to be in the range of 2.5 to 4 in a majority of UC patients (38.6%), CD patients (90%), and non-IBD forms (50%). Incidences of WBC were found to be in the range of 0 to 1000 in a majority of UC patients (38.6%), CD patients (60%), and non-IBD forms (54.65%). ALP was in the range of 0 to 10 in a majority of UC patients (52.3%), CD patients (80%), and non-IBD patients (56.39%); while in a majority of UC patients (31.8%), CD (60%) and non-IBD patients (48.83%) albumin level was found to be in the range >3.

TABLE 3. Distribution of study subjects based on incidences of biochemical parameters.

Diagnostic parameters	Ulcerative colitis	Crohn's disease	Non-IBD
	Total percentage	Total percentage	Total percentage
ESR- erythrocyte sedimentation rate			
0 to 5	34.1	30	47.67
5 to 30	15.9	50	27.32
30 to 65	31.8	10	16.27
66-100 above	18.2	10	8.72
C reactive protein			
0 to 0.5	36.4	50	80.23
0.6 to 5	27.3	40	8.72
5.1 to 50	25	10	9.3
>50	11.4	0	1.74
Hemoglobin level			
5 to 9	29.5	0	12.79
9.1 to 11.9	40.9	50	30.81
12 to 14	15.9	30	27.32
>14 above	13.6	20	29.06
Packed cell volume			
0 to 10	4.5	0	9.3
11 to 30.9	36.4	10	12.2
31 to 40	43.2	70	47.67
>40 above	15.9	20	30.81
Platelet count			
0.1 to 1.5	9.1	0	15.69
1.5 to 2.5	25	0	23.83
2.5 to 4	38.6	90	50
>4 above	27.3	10	10.46
White blood count- total count			
0 to 1000	38.6	60	54.65
1000 to 5000	9.1	0	3.488
5000 to 10,000	34.1	0	32.55
>10,000	18.2	40	9.302
Alkaline phosphatase			
0 to 10	52.3	80	56.39
10 to 50	25	0	2.9
50 to 100	22.7	10	25.58
>100	100	10	15.11
Albumin			
0 to 0.9	36.4	10	31.39
1 to 2	11.4	10	6.39
2 to 3	20.5	20	13.37
>3 above	31.8	60	48.83

DISCUSSION

The epidemiology of IBD disease is changing throughout the world⁽¹²⁾. Molodecky et al.⁽³⁾, revealed that 75% of studies on CD and 60% of studies on UC reported a significant increase in incidences in North America and Europe during the latter half of the 20th century. According to Govind et al.⁽¹³⁾, Indian incidences of UC are more compared to CD. Nagesh et al.⁽¹¹⁾, also reported high prevalences of UC as compared to CD [70.20% & 29.80%] in the state of Karnataka. In another study conducted by Rudra et al.⁽¹⁴⁾, on the assessment of demographic profile at Uttar Karnataka reported the high prevalence of UC (93.40%) compared to CD (6.31%) during the period of 2009–2019. Similar to literature findings current findings also revealed a high prevalence of UC (19.46%) as compared to CD (4.42%).

The study was conducted by Khosla et al.⁽¹⁵⁾, in 1984 in Haryana in North India reported a UC prevalence of 42.8 per 100,000 people. In another study conducted by Sood et al.⁽¹⁶⁾, from Punjab reported a UC prevalence rate of 44.3/100,000. A multicenter reported by Das et al., from the North and Eastern region of India revealed an increasing number of cases of CD prevalences i.e., 5,000 in 1987 and 21,061 in 2001, indicating the rise in the burden of CD⁽¹⁷⁾. The overall incidence of IBD, UC, and CD from Asia was 1.37, 0.76, and 0.54 per 100,000, as reported by Saurabh et al.⁽¹⁸⁾.

In our study prevalence's of UC and CD were predominantly observed in the age group >40 years followed by the group with 17–40 years, in the male population as compared to females. These findings were comparable with literature studies reported by various other research investigations^(19,20). Beginning in the early childhood age group i.e., between 5–9 years, there was a trend toward lower incidences of CD in females compared with males, which was statistically significant in adolescence i.e., age group between 10–14 years with females having a 30% lower risk of CD compared with males. The rate of incident cases of CD then increased in females as compared to males between the age group of 15–24 years. Except in the age group 30–34 years, there was a reversal in the sex ratio after the age of 25 years wherein females remained at significantly higher risk of CD compared with males, in western countries⁽²¹⁾. However, in most of the studies prevalence of UC in Asia advocated male predominance⁽²²⁾. Furthermore, a study by Govind et al.⁽¹³⁾, also reported a slight male preponderance of both UC and CD.

In our study, a high incidence of CD was reported among the population from urban areas as compared to rural areas [72.70% & 27.35%]. With regards to occupation high incidences of CD was reported in other categories which include (labors drivers, private works, marketing, etc.) with 38.60%. A High incidence of UC was also reported among the population in urban as compared to rural [70% & 30%]. With regards to occupation high incidences of UC were reported among the population with the occupation of other categories (50%) and housewives 30%. A multicenter study in Western India reported that there was not much significance of residency factor and occupation in the distribution of prevalence of UC and CD as reported by Saurabh et al.⁽²³⁾. However, Ing et al.⁽²⁴⁾, reported that the population living in an urban environment is at higher risk of developing IBD *viz.* CD and UC.

Diet is an important component of any disease and in the case of IBD, there are many perspectives to diet as perceived by both patient and the physician. As a triggering agent for IBD, as part of therapeutic strategy, and as a component of nutritional

plan⁽²⁵⁾. In our study the generalized intake of food was reported, the incidences of vegetarian intake were high (30%) and as compared to mixed food (20%) UC. Whereas equal incidences (50%) of vegetarian and mixed food were observed in CD diseased patients.

A study in the United State revealed that among 68% of patient's diet was directly proportional to their disease as reported by Jowett et al.⁽²⁶⁾. Another study carried out in the UK reported that a similar proportion of patients thought diet to be a major risk factor for IBD⁽²⁷⁾. A study in India carried out by Sanjeevi et al.⁽²⁵⁾, reported a lower proportion of patients have modified their diet (57% vs 85%) and restricted their food (68% vs 90%) compared to the Western population. The proportion of patients who avoided non-veg food was much higher in a study reported by Sanjeevi et al.⁽²⁵⁾, as compared to studies reported by Limdi et al.⁽²⁷⁾, and Zallot et al.⁽²⁸⁾, [78% vs 22% vs 22%].

IBD presents with pleomorphic clinical manifestations. Diarrhea was found to be the most common clinical manifestation observed in all forms of disease i.e., IBD [UC (88.6%) and CD (80%)] and non-IBD (71.50%) form followed by abdominal pain and weight loss. In UC patients, incidences of blood in stool were the second most clinical manifestation observed followed by fever (25%), watery stool and vomiting (20.5%), presence of mucus in the stool (11.4%), loss of appetite and pus in stool (9.1%), and constipation (6.8%). In CD patients incidences of the presence of mucus in stool and fever (20%) were the most common clinical manifestations observed followed by blood in stool, constipation and loss of appetite (10%), and incidences of watery stool was observed in 3% of CD patients. These findings were comparable with literature studies reported by various other research investigators. In a study carried out by Mukunda et al.⁽²⁹⁾, reported that passage of blood in the stool (90%), diarrhea (86.40%), followed by abdominal pain (61.30%), weight loss (25.30%), and fever (9.60%) as vital clinical manifestations in UC patients. The most important clinical features of CD were diarrhea (63.64%), abdominal pain (90.91%), weight loss (63.64%), and blood in stools (27.27%) as reported in the Northeast part of India by Sadiqul et al.⁽³⁰⁾. Furthermore, Viviane et al., reported diarrhea, blood in stool abdominal pain, and weight loss as the most commonly noticed clinical manifestations found among patients of IBD⁽³¹⁾. Similar findings were reported in studies carried out in the USA⁽³²⁾.

In our study majority of UC patients i.e., 36% were diagnosed based on colonoscopy with left-sided colitis followed by 30%, 18%, and 16% were diagnosed with pancolitis, proctitis, and extensive colitis respectively. While a majority of CD patients i.e., 40% were diagnosed based on colonoscopy with colonic + ileum followed by 30% each were diagnosed with colonic and ileum. Malgorzata et al.⁽³³⁾, reported the distinctive manifestations of UC diseases. In a total of 85 study subjects from Karnataka state, (9.4%) developed proctitis and (12.90%) proctosigmoiditis. Patients affected with left-sided colitis and pancolitis were (42.30%) and (34%) respectively.

In our study, incidences of ESR and CRP in majority of UC patients (34.1% & 36.4%), CD patients (30% & 50%) and non-IBD (47.67% & 80.23%) was found to be in the range of 0 to 5 respectively. An incidence of Hb was found to be in the range of 9.1 to 11.9 in a majority of UC patients (40.9%), CD patients (50%), and non-IBD patients (30.81%). Incidences of PCV were found to be in the range of 31 to 40 majorities of UC patients (43.2%), CD patients (70%), and non-IBD forms (47.67%). Incidence platelet count was found to be in the range of 2.5 to 4 in a majority of UC patients (38.6%), CD patients (90%), and non-IBD forms (50%).

An incidence of WBC was found to be in the range of 0 to 1000 in a majority of UC patients (38.6%), CD patients (60%), and non-IBD forms (54.65%). ALP was in the range of 0 to 10 in a majority of UC patients (52.3%), CD patients (80%), and non-IBD patients (56.39%), and incidences of albumin were found to be in the range of 0 to 0.9 in a majority of UC patients (36.4%); while in a majority of CD patients (31.8%) and non-IBD patients (48.83%) albumin level was found to be in the range >3. These findings were comparable with literature reports^(22,29). These diagnostic biochemical parameters are used to support a diagnosis of IBD and aid in distinguishing UC from CD but not specific to IBD.

Although there are various types of the IBD based on clinical appearance, finding through endoscopy, colonoscopy and surgical laparoscopy, and histopathological reports. In our investigation, we have divided the disease into IBD and non-IBD, and subsequently screened the total patient's information collected. Out of two forms, the IBD is already explained in above a descriptive form and the non-IBD incidence rate was [172/226 (76.10)]. The total incidence concerning for year distribution, age residency environment (rural vs urban), occupation, diet intake, and symptomatic, diagnosis parameter has been summarized in the results in detail.

Limitations of the study

Our study is a retrospective one, and hence some cases might have been missed.

The sample size is lesser since data was collected only from medical gastroenterology cases in our study.

Patients with symptoms suggestive of IBD but reported as non-specific colitis may represent true IBD on follow-up. However, as this was a retrospective study the follow-up such case was not available.

Highlights of the study:

What is already known?

Incidence and prevalence of IBD in India were known from a survey. However, the increasing incidences trend of IBD leads to consider it as an expanding global health problem.

What is new in this study?

This is the first study from the North Karnataka region to document the prevalence and incidence IBD more specifically UC and CD cases belonging rural-urban, age, and gender- based wise distribution.

What are the future clinical and research implications of the study findings?

The data obtained from this retrospective study could be used to create awareness about IBD, for early diagnosis and treatment, and thereby control the disease burden. The data obtained in our study could serve as a preliminary pilot study to conduct further research at a molecular level and drug discovery studies.

CONCLUSION

In conclusion, the findings of our study delineated that incidences of IBD were high with UC as compared to CD. The incidence of IBD among patients presenting with symptoms suggestive of IBD is 19.46% with UC being major as compared to CD (4.42). Male predominant patterns of IBD incidences were noted. Year by year increasing trend in disease burden was observed. The dietary pattern has no direct correlation with IBD disease prevalence and incidence.

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Authors' contribution

Oli AK: clinical assessment, analysis and interpretation of the data and preparation of the initial manuscript. Maidur RN: study design, analysis and interpretation of the data, revision of the manuscript. Hurkadli PS: analysis and interpretation of the data and revision of the manuscript. Javalgi AP: interpretation of the histopathological results and data analysis. Javaregowda PK: revision of the manuscript. Goni M: interpretation of the data. All the authors read and approved the final version of the manuscript. Oli AK and Maidur RN both are Guarantors of the paper.

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Resumo – Contexto – A Doença inflamatória intestinal (DII) é uma doença inflamatória crônica que afeta o trato gastrointestinal. A etiologia desta condição alarmante é multifatorial. Uma tendência recentemente crescente na DII é notada em nosso país. **Objetivo** – O presente estudo foi desenhado com o objetivo principal de avaliar a incidência e identificar os fatores de risco associados, incluindo demográficos, áreas geográficas e padrões alimentares da população com DII do Norte de Karnataka *viz.* Cidade de Hubli-Dharwad. **Metodos** – Uma investigação retrospectiva foi realizada em uma coorte de 226 pacientes com diagnóstico de DII e que foram admitidos entre 2015 e 2019 no departamento de gastroenterologia, SDMCMS&H. O diagnóstico de DII foi feito com base em achados clínicos, radiológicos, endoscópicos e histopatológicos. Os pacientes foram categorizados em DII e aqueles que apresentam sintomas sugestivos de DII, mas não se enquadraram nos critérios diagnósticos em grupos sem DII. Os dados sobre a demografia, padrões de dieta e parâmetros laboratoriais foram registrados. **Resultados** – Entre os 226 pacientes inscritos neste estudo entre 2015–2019, DII foi confirmada em 54 [RCUI – 44 (19,46%), DC – 10 (4,42%)] com distribuição variada da doença entre diferentes faixas etárias e ambos os sexos, colite ulcerativa (RCUI) [M: F: 28 (63,6%):16 (36,4%)] e doença de Crohn (DC) [M: F: 07 (70,0%): 03 (30,0%)]. O padrão alimentar e outros hábitos não tiveram contribuição significativa para a doença e seus sintomas. Urbanos (U) e rurais (R) dividiram-se em RCUI [U: R: 32 (72,7%):12 (27,3%)], DC [07 (70,0%): 03 (30,0%)]. **Conclusão** – A incidência de DII foi elevada para RCUI em relação a DC. A incidência de DII entre os pacientes com sintomas sugestivos de DIB é de 19,46% com a RCUI sendo maior em relação a DC (4,42%). Foram observados padrões predominantes masculinos de incidência de DII. Ano a ano foi observada tendência crescente de carga da doença. O padrão dietético não tem correlação direta com a prevalência e incidências da DII.

Palavras-chave – Doença inflamatória intestinal; doença de Crohn; colite ulcerativa; Karnataka; retrospectiva.

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