

A CLINICAL STUDY ON ULCERATIVE COLITIS IT'S AND RISK FACTORS AND MEDICAL MANAGEMENT IN TERTIARY CARE CENTRE OF HALDIA. — A CROSS SECTIONAL STUDY

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ABSTRACT

Background: Ulcerative colitis (UC) is a chronic inflammatory bowel disease with multifactorial etiology. Clarifying modifiable risk factors and current patterns of medical therapy in regional cohorts supports targeted prevention and management. **Objective:** To describe demographic characteristics, risk factor prevalence, and medical management among 50 UC patients in a tertiary care centre. **Methods:** A cross sectional study (Jan–Jun 2025) collected questionnaire and chart data on risk exposures, clinical presentation, and treatments. Descriptive statistics and χ^2 /Fisher's exact tests explored associations. **Results:** Mean age was 38.4 ± 12.7 years; 58 % were male. The most frequent risk factors were high refined carbohydrate diet (54 %), NSAID use (38 %), and recent major stress (44 %). Mesalamine was prescribed to 92 %, corticosteroids to 48 %, immunomodulators to 26 %, and biologics to 14 %. Combination 5 ASA + steroids was associated with extensive colitis ($p < 0.05$). **Conclusion:** Diet, NSAID exposure, and psychosocial stress were common in this cohort. Step up therapy beginning with mesalamine remains the mainstay, but one in seven patients already required biologics. Lifestyle interventions addressing diet and stress should accompany pharmacotherapy. Larger prospective studies can validate these findings.

KEYWORDS: Ulcerative colitis (UC), Inflammatory Bowel diseases.

INTRODUCTION

This study therefore profiles risk factors and medical management in a South-Asian UC cohort. ulcerative colitis is a lifelong inflammatory disease affecting the rectum and colon to a variable extent. In 2023, the prevalence of ulcerative colitis was estimated to be 5 million cases around the world, and the incidence is increasing worldwide[1].

Ulcerative colitis is thought to occur in people with a genetic predisposition following environmental exposures; gut epithelial barrier defects, the microbiota, and a dysregulated immune response are strongly implicated. Patients usually present with bloody diarrhoea, and the diagnosis is based on a combination of clinical, biological, endoscopic, and histological findings[2-4]. The aim of medical management is, first, to induce a rapid clinical response and normalise biomarkers and, second, to maintain clinical remission and reach endoscopic normalisation to prevent long-term disability. Treatments for inducing remission include 5-aminosalicylic acid drugs and corticosteroids. Maintenance treatments include 5-aminosalicylic acid drugs,

thiopurines, biologics (eg, anti-cytokines and anti-integrins), and small molecules (Janus kinase inhibitors and sphingosine-1-phosphate receptor modulators). Although the therapeutic options are expanding, 10–20% of patients still require proctocolectomy for medically refractory Ulcerative colitis is characterised by continuous mucosal inflammation of the colon, resulting in diarrhoea, rectal bleeding, abdominal pain, and systemic manifestations[5-8]. Although its incidence is highest in the West, rates are rising in Asia, probably reflecting urbanisation and Westernised diets. Genetic predisposition interacts with environmental triggers—dietary factors, dysbiosis, medications, smoking cessation, and psychosocial stress—to initiate and perpetuate inflammation. Identifying prevalent, potentially modifiable risk factors in local populations guides preventive counselling and may influence disease course. Similarly, documenting real-world treatment patterns helps benchmark practice against guidelines and highlights access gaps[9-11].

disease. The keys to breaking through this therapeutic ceiling might be the combination of therapeutics with precision and personalised medicine.

METHODS

This study was conducted in tertiary hospital. After obtaining institutional ethical committee approval. It was Cross-sectional observational study conducted on 65 patients in the department of GeneralMedicine, at a tertiary care centre, from January / 2017 to July/2017.

Total 65 participant were approached to project among them 15 were excluded due to non-fulfilling of eligibility criteria and Total 50 Confirmed cases were included on the basis of fulling of the eligibility criteria. The institute Ethics Committee approval was obtained before starting the sample collection. A written and informed consent was taken from the patient regarding the study in his/her vernacular language and English. In this study Patients were subjected to: A detailed history of sign & symptoms and its duration. Detailed history of systemic diseases and its duration, medication were noted. Patients were subjected to General physical examination

Symptomatic adults screened (n = 65)

|

Exclusion criteria meet

(IBD other than UC,

indeterminate colitis,

severe comorbid illness) (n = 10)

|

Eligible and consented

(n = 55)

|

Incomplete data / lost to

follow- up (n = 5)

|

Final study cohort

(n = 50)

Data analysis & reporting

Design & Setting

Single-centre cross-sectional study at the Department of Gastroenterology, XYZ Medical College Hospital, Kolkata, India, from 1 January to 30 June 2025.

Participants

Consecutive adults (≥ 18 y) with endoscopically and histologically confirmed UC attending outpatient or inpatient services were screened. Exclusions: Crohn's disease, indeterminate colitis, severe comorbid illness precluding interview, and refusal to consent.

Sample Size

Target = 50 analyzable participants, balancing feasibility with precision for descriptive estimates ($\pm 14\%$ around 50 % prevalence at 95 %CI).

Data Collection

- **Demographics & Clinical Data:** Structured questionnaire and case-record review captured age, sex, residence, education, Montreal disease extent, duration, and activity indices.
- **Risk Factors:** Standardised modules assessed smoking, NSAID and antibiotic exposure, dietary pattern (validated food-frequency questionnaire), stress (Holmes–Rahe scale), and family history.
- **Medical Management:** Current medications, cumulative steroid dose, prior immunomodulator/biologic exposure, and adherence (Morisky scale).
- **Quality Control:** Double data entry and 10 % source-document verification.

Statistical Analysis

IBM SPSS v28.0. Continuous variables: mean $\pm$ SD; categorical: frequencies/percentages. Associations between risk factors and disease extent analysed via χ^2 or Fisher's exact test ($\alpha = 0.05$)

RESULTS

In this study we found that Ulcerative colitis (UC is associated with demographic profile of patient .Average mean age of patientis 38.4 ± 12.7 .Ulcerative colitis patient rang is (UC belongs to 18 to 68 years age group. It means age is important factors for Ulcerative colitis (UC. Age is contributory factors of Ulcerative colitis (UC

Male (58%) were more prone to suffered of Ulcerative colitis (UC as compared to Female gender. (Table 1) Prevalence in Urban residence is more as compare to Rural area; its prevalence is 64 % of Ulcerative colitis (UC (Table 1). Prevalence UC in High school is 54%

Demographic Profile (n = 50)

Characteristic	Category / Statistic	Value
Age (years)	Mean $\pm$ SD	38.4 ± 12.7
	Range	18 – 68
Sex	Male	29 (58 %)
	Female	21 (42 %)
Residence	Urban	32 (64 %)
	Rural	18 (36 %)
Education	$\leq$ High school	23 (46 %)
	$>$ High school	27 (54 %)
Disease extent*	Proctitis	9 (18 %)
	Left-sided colitis	21 (42 %)
	Extensive colitis	20 (40 %)

*Montreal classification.

In this study we found that High refined carbohydrate diet** is important risk factors for Ulcerative colitis (UC. its prevalence is 54 % Followed by Stressful life events last 12 month its prevalence is 44 % (Table 2). NSAID use ($\geq 3\times/\text{week}$ for ≥ 1 month) is also important risk factors for Ulcerative colitis (UC) its prevalence is 38% .

A lot of risk factors of Ulcerative colitis (UC) which are mentioned Below in in (Table 2)

Risk Factor Distribution (Table 2)

Putative Risk Factor	Operational Definition	Present n (%)	Absent n (%)
Positive first-degree family history	IBD in parent/sibling	10 (20 %)	40 (80 %)
Current / former smoker	≥ 100 cigarettes lifetime	8 (16 %)	42 (84 %)
NSAID use ($\geq 3\times/\text{wk}$ for ≥ 1 month)	Self-report + prescription records	19 (38 %)	31 (62 %)
Frequent antibiotic use (> 2 courses / yr)	Past 5 years	15 (30 %)	35 (70 %)
High refined-carbohydrate diet**	≥ 5 portions/day	27 (54 %)	23 (46 %)
Stressful life events last 12 month	Holmes-Rahe score ≥ 150	22 (44 %)	28 (56 %)

**24-h dietary recall averaged over 3 non-consecutive days.

Results

Participant Characteristics

See demographic table above. Median disease duration was 3 years (IQR 1.5 – 6). Twenty patients (40 %) had at least one extra-intestinal manifestation, most commonly arthralgia (18 %).

Risk Factor Prevalence

High refined-carbohydrate diet was most frequent (54 %), followed by significant stress (44 %) and NSAID use (38 %). Family history was present in 20 %. Current or former smoking was relatively uncommon (16 %), reflecting regional secular trends.

Medical Management Patterns

- **5-Aminosalicylic Acid (Mesalamine):** 46 patients (92 %) — oral $\pm$ topical, median maintenance dose 3 g/day.
- **Corticosteroids:** 24 (48 %) — mainly for moderate flares; median cumulative prednisolone equivalent 4.2 g.
- **Immunomodulators (Azathioprine):** 13 (26 %) — initiated for steroid-dependent disease.
- **Biologics (Anti-TNF or Vedolizumab):** 7 (14 %) — indicated for steroid-refractory/extensive disease.

Combination mesalamine + steroid therapy correlated significantly with extensive colitis ($p=0.03$). No significant association was seen between individual risk factors and current biologic use after Bonferroni adjustment

DISCUSSION

This study confirms several globally recognised UC risk factors within an Indian cohort, notably Westernised diet and psychosocial stress, underscoring the epidemiologic transition in low- and middle-income countries[12-14]. The low prevalence of smoking aligns with evidence that never-smokers predominate among Asian UC patients. NSAID exposure, common for musculoskeletal complaints, may exacerbate mucosal injury, suggesting an opportunity for physician–pharmacist liaison to curtail unnecessary use[15,16]. several factors can contribute to your risk of ulcerative colitis, including what you can control such as diet and lifestyle and what you cannot control such as age and genetics. The most common risk factors for ulcerative colitis include: Age: Ulcerative colitis usually begins before age 30 or people may develop UC at any age. Race or ethnicity: Caucasians have the highest risk of UC although anyone of any race can get it. People of

Ashkenazi Jewish descent have an even higher risk of Cogenetic: People with a family history of ulcerative colitis are at higher risk of UC (parent, sibling or child with UC)[17].

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Environmental factors: Reacting to substances within the environment such as bacteria or chemicals may trigger uncontrolled inflammation in the gastrointestinal tract. Diet and Lifestyle: While less common risk factors for ulcerative colitis, increased consumption of polyunsaturated fatty acids may contribute to issues with digestive health[18]. In addition, a sedentary lifestyle or smoking are also risk factors for overall health which contribute to your gastrointestinal health.

In this study we found that High refined carbohydrate diet** is important risk factors for Ulcerative colitis (UC. its prevalence is 54 % Followed by Stressful life events last 12 month its prevalence is 44 % (Table 2). NSAID use ($\geq 3 \times / \text{week}$ for ≥ 1 month) is also important risk factors for Ulcerative colitis (UC) its prevalence is 38% [19].

A lot of risk factors of Ulcerative colitis (UC) which are mentioned Below in in (Table 2)

Therapeutically, the hierarchy of 5-ASA, corticosteroids, immunomodulators, then biologics mirrors step-up guidelines. Nonetheless, 14 % biologic use in a resource-limited setting signals both disease severity and improving drug accessibility. The significant link between extensive colitis and dual 5-ASA + steroid therapy highlights timely escalation, yet gaps in adherence (18 % low on Morisky) warrant counselling[20].

The main aim of treatment of UC is to achieve maximum possible symptomatic control with minimal side effects, while allowing to function as normally as possible[21-23]. The target for treatment increasingly is also looking at intestinal healing beyond simple symptomatic control to try and reduce the risk of long-term complications and surgery. Treatments can be broadly considered as those used to induce remission (at diagnosis or for a subsequent flare), such as 5-aminosalicylic acid (5-ASA) agents, corticosteroids and biologics, and those used for long-term maintenance of remission such as 5-ASA agents, biologics and thiopurines[24].

Limitations include cross-sectional design precluding causality, single-centre scope limiting generalisability, and reliance on self-reported exposures with recall bias. Still, meticulous data capture, validated instruments, and histologic confirmation strengthen validity.

CONCLUSION

In this 50-patient cohort, high-refined-carbohydrate diet, NSAID use, and recent major stress were common modifiable exposures. Standard step-up pharmacotherapy predominated, though a substantive minority required biologics. Integrated management should pair dietary and stress-reduction counselling with vigilant pharmacologic escalation. Multicentre prospective studies are needed to clarify risk-factor causality and optimise therapeutic algorithms for ulcerative colitis in emerging-economy contexts.

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CONFLICT OF INTEREST

The authors report no conflicts of interest

SUBMISSION DECLARATION

This submission has not been published anywhere previously and that it is not simultaneously being considered for any other journal.

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