

# Increased Self-medication with Steroids in Inflammatory Bowel Disease Patients during COVID-19 Pandemic: Time to Optimize Specialized Telemonitoring Services

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## ABSTRACT

Inflammatory bowel disease (IBD) is a serious condition characterized by a complex interaction of genetic, environmental, and inflammatory variables that affect the gut and other extragastrintestinal systems. Self-medication with steroids has become a major issue in light of the current pandemic situation in IBD patients. We observed a higher frequency of steroid self-medication (17.9%) and steroid overprescription (28.2%) by non-gastroenterologists during the pandemic. The use of telemonitoring tools can improve patient-IBD care provider communications in terms of drug compliance and better disease outcomes.

**Keywords:** COVID-19, Inflammatory bowel diseases, Self-medication, Telemedicine.

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Inflammatory bowel disease (IBD) is a long-standing debilitating disease, which occurs due to complex interactions between genetic, environmental, and inflammatory processes affecting the gut and other extragastrintestinal systems. IBD includes ulcerative colitis (UC) and Crohn's disease (CD), accompanied by frequent relapse and remissions. Facing the coronavirus disease-2019 (COVID-19) pandemic has changed the current practice in IBD in terms of patient care and follow-up, although there is no current evidence that the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) exacerbates the underlying IBD.<sup>1</sup> In a recent meta-analysis of 24 studies, the risk of SARS-CoV-2 infection in IBD is found to be equivalent to that of the general population. However, when compared to CD, UC has a higher risk of negative adverse outcomes, especially on steroids.<sup>2,3</sup> Discontinuing current medications for IBD, such as 5-ASA, corticosteroids, immunomodulatory, and biological therapies, due to various reasons may trigger disease flare, disability, and dilemma to restart the therapy. Steroids are effective non-selective anti-inflammatory, immunomodulatory, vasoconstrictive, and anti-proliferative drugs. It is associated with several side effects even at modest dosages.<sup>4</sup> Many studies have shown that a 5-year probability of receiving steroids is up to 75% in IBD patients.<sup>5</sup> European Crohn's and Colitis Organization (ECCO) guidelines recommend combining corticosteroids with 5-ASA preparations as first-line therapy in mild to moderate UC flares and moderate to severe ileocecal colonic CD.<sup>6,7</sup> The risk of severe infections, gastrointestinal bleed, osteoporosis, Cushing's syndrome, poor glycemic control, psychosis, sleep disturbances, hypertension, and delayed SARS-CoV-2 virus clearance are among adverse steroid effects.<sup>8</sup>

Self-medication is a major issue given the current pandemic situation, particularly in underdeveloped countries and having poor health infrastructure. Self-medication is defined by the World Health Organization as "the selection and utilization of medications to treat self-recognized symptoms or ailments without consulting a physician."<sup>9</sup> Especially in IBD, the use of non-prescription drugs is common, notably corticosteroids, which are used by up to 15% of patients.<sup>10</sup> According to a survey of 546 patients by Gismero et al.,

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self-medication was more prevalent among IBD patients when treated by general practitioners than IBD specialists ( $p = 0.007$ ).<sup>11</sup> Many studies have shown that having frequent disease flares, keeping the steroids after treatment completion, fear of symptom worsening, or to achieve quick symptom relief, preemptive prescription in case of flare by the primary care doctor, irregular follow-ups, electronic prescriptions, and ignorance of medications associated side effects were all factors related to self-medication behaviors.<sup>12</sup> In our experience, 39 IBD (36 UC and 3 CD) patients were admitted at All India Institute of Medical Sciences, Rishikesh, India, between March 2020 and June 2021. The mean age of the study group was  $39.6 \pm 14.1$  years, with a male predominance (56.4%). We retrospectively observed that 46.1% (18/39) of the patients had received at least one dose of corticosteroids prior to the current admission to our center. Of these, 17.9% (7/39) patients had a history of self-medication with steroids, and 28.2% (11/39) patients had a prescription of steroids by non-gastroenterologists (Table 1).

## SPECIALIZED TELEMEDICINE SERVICES

Telemedicine services are a popular approach that has shown promising results in IBD care, especially in times of the

**Table 1:** Demographics and self-medication frequency with oral steroids

	%, (n = 39)
Age (mean ± SD)	39.6 ± 14.1 years
Male	56.4% (22/39)
Female	43.6% (17/39)
UC	92.3% (36/39)
E1	0
E2	47.2% (17/36)
E3	52.8% (19/36)
CD	7.7% (3/39)
Number of prior hospital admissions [median (IQR)]	2 (1–3)
History of steroid use during the disease course	74.3% (29/39)
Patients receiving steroids before the current admission	46.1% (18/39)
Frequency of self-medication	17.9% (7/39)
Steroid prescription by non-gastroenterologists	28.2% (11/39)

COVID-19 pandemic.<sup>13,14</sup> Although telemedicine services may not be equivalent to that of standard referral center care, it is a cost-effective platform that can avoid unnecessary health center visits, particularly with the current travel restrictions.<sup>15</sup> Telemonitoring interventions from IBD healthcare providers in the form of weekly assessment of symptoms, medication reconciliation, side effect profile monitoring, and specified action plans help monitor patients with active IBD symptoms. Further, integrating multidisciplinary IBD services, digging up previous records, identifying patients who need close follow-up, and actively contacting them will also help understand the disease course and prognosis better. In addition, IBD-specific knowledge can also be delivered through online lectures, instructional messages in local languages, teleconferencing, web-based group discussions, and IBD-specific applications. There is room for further development by exploring sophisticated virtual information delivery systems that are both affordable and accessible to the community. This provides the required attention and social support in patients with IBD, who often necessitate lifelong care.<sup>16</sup>

In conclusion, IBD management is confronted with additional problems during the COVID-19 pandemic. We observed a higher frequency of steroid self-medication (17.9%) and steroid overprescription (28.2%) by non-gastroenterologists. The use of telemonitoring systems will positively influence patient-IBD care provider communication, curbing misinformation, disease monitoring, and improve drug compliance.

### Author Contributions

Conceptualization and original draft preparation: Budumuri Gautam V Kumar.

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