

Epidemiology of Inflammatory Bowel Disease

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Abstract

The prevalence of inflammatory bowel disease (IBD) has been rising in recent years. Its global incidence and prevalence vary based on regional and ethnic factors, socioeconomic conditions, age, and gender. Worldwide, the number of cases is generally higher in females than in males, although the age-standardized prevalence rate is similar for both genders. In terms of mortality, an increase has been observed among IBD patients over the past 30 years. Although the mortality burden remains low, the non-mortal burden of IBD has continued to rise. Projections for the next 25 years indicate that the prevalence of IBD will increase across all regions of Asia except South Asia.

Keywords: Inflammatory bowel disease, epidemiology, mortality

INTRODUCTION

Inflammatory bowel disease (IBD) is a chronic inflammatory condition of the gastrointestinal tract with an unknown etiology. It includes ulcerative colitis (UC) and Crohn's disease (CD) as two distinct disorders. The global incidence and prevalence of IBD vary based on regional and ethnic factors, socioeconomic conditions, age, and gender.

IBD has historically been associated with Western countries. However, research over the past 20 years has shown a sharp increase in its prevalence in newly industrialized nations in the Middle East, Asia, and South America.¹

INFLAMMATORY BOWEL DISEASE EPIDEMIOLOGY WORLDWIDE

Using the Sociodemographic Index (SDI), the Global Burden of Disease (GBD) Study 2019, a worldwide systematic epidemiological investigation, assessed the national, regional, and global burden of IBD across 204 countries from 1990 to 2019. In 1990, the estimated number of IBD cases worldwide was 3.32 million; by 2019, this number had increased by 47.45% to 4.90 million. The age-standardized global prevalence of IBD was 72.23 per 100,000 in 1990 but declined to 59.25 per 100,000 in 2019.

The same study estimated that the number of IBD cases in Türkiye ranged between 50,000 and 100,000 in 2019, with an age-standardized prevalence of 75–100 per 100,000. At the national and regional levels in 2019, China (911,405 cases) and the USA (762,890 cases) reported the highest numbers of IBD cases.

While high-income Asia-Pacific nations had the highest age-standardized prevalence of IBD, the lowest rates were observed in Africa, Southeast Asia, and Oceania (Figure 1). Globally, IBD cases were more common in females than in males, although the age-standardized prevalence rate was similar for both genders. The highest prevalence was observed in the 50–54 age group for females and the 60–64 age group for males.²

EPIDEMIOLOGY OF TÜRKİYE

An epidemiological study conducted in Türkiye in 2009 determined the prevalence of UC to be 4.4 per 100,000 and CD to be 2.2 per 100,000. Male predominance was observed in both disorders, with two peak incidence periods in the 20–30 and 50–70 age groups.³

Another epidemiological study, which evaluated a total of 3,463 patients from 19 centers in Türkiye between 2010 and 2022, found that 1,523 (44%) patients were diagnosed with CD, 1,768 (51.1%) with UC, and 23 (0.7%) with indeterminate colitis. Males were more likely to be diagnosed with both Crohn's disease and ulcerative colitis, with the most common age group being 21 to 30 years.

According to data from the Turkish Statistics Institute, there was an increase in newly diagnosed cases and incidence rates per population between 2010 and 2021 (Figure 2). While CD was initially more common, the frequency of UC has increased over the past six years, based on patient

groups categorized by year of diagnosis (2010–2016 and 2016–2022). Males had a higher incidence of UC than females (64.4% vs. 55.9%, $P \leq 0.001$), while patients older than 60 had a higher incidence of UC compared to younger patients (62.2% vs. 52%, $P \leq 0.001$).⁴

MORTALITY

In terms of mortality, there were 24,295 fatalities in 1990, while 40,998 deaths occurred in 2019, representing a 68.75% increase. Although the mortality burden remains low, the non-mortal burden of IBD has increased. In 1990, IBD was ranked fifth among gastrointestinal diseases in terms of years lost to disability; by 2017, it had risen to fourth place.²

An analysis evaluating the global burden of IBD in the Asian population between 1990 and 2019 showed that the main factors contributing to the increase in IBD were the overall population growth and the aging population over the past 30 years.

PROJECTING THE FUTURE

A projection for the next 25 years predicts that the frequency of IBD will increase in all regions of Asia, except South Asia. East Asia is expected to have the highest age-standardized incidence rate, with a predicted rate of 2.95 per 100,000 in 2019 and 3.43 per 100,000 in 2044.⁵

A similar analysis in China forecasted that the number of IBD cases across all age groups would increase each year. The total number of cases, which was 298,412 from 1990–1994, is expected to rise to 490,887 between 2035–2039, with the incidence in males consistently higher than in females.⁶

In another study conducted in Korea, the prevalence of IBD was projected to increase to 149.59 per 100,000 by 2028, 194.66 per 100,000 by 2038, and 239.73 per 100,000 by 2048. In 2048, the prevalence of UC was predicted to be 159.4 per 100,000, while the prevalence of CD was projected to be 91.11 per 100,000.

MAIN POINTS

- The global incidence and prevalence of IBD vary based on regional and ethnic factors, socioeconomic conditions, age, and gender.
- In 1990, the estimated number of IBD cases worldwide was 3.32 million; by 2019, this number had increased by 47.45% to 4.90 million.
- A 2009 epidemiological study in Türkiye found the prevalence of ulcerative colitis to be 4.4 per 100,000 and Crohn's disease to be 2.2 per 100,000. Both disorders showed a male predominance and had two peak incidence periods, occurring in the 20–30 and 50–70 age groups.
- In terms of mortality, 24,295 deaths were recorded in 1990, rising to 40,998 in 2019—an increase of 68.75%.
- Over the next 25 years, the prevalence of IBD is projected to rise across all regions of Asia, except South Asia.

The 2048 projection predicts a steady increase in both sexes. While the prevalence rate of IBD in males was 49.58 per 100,000 in 2004, it is expected to rise to 318.13 per 100,000 by 2048. Similarly, the prevalence rate for females, which was 75.58 per 100,000 in 2018, is predicted to increase to 158.06 per 100,000 by 2048.⁷

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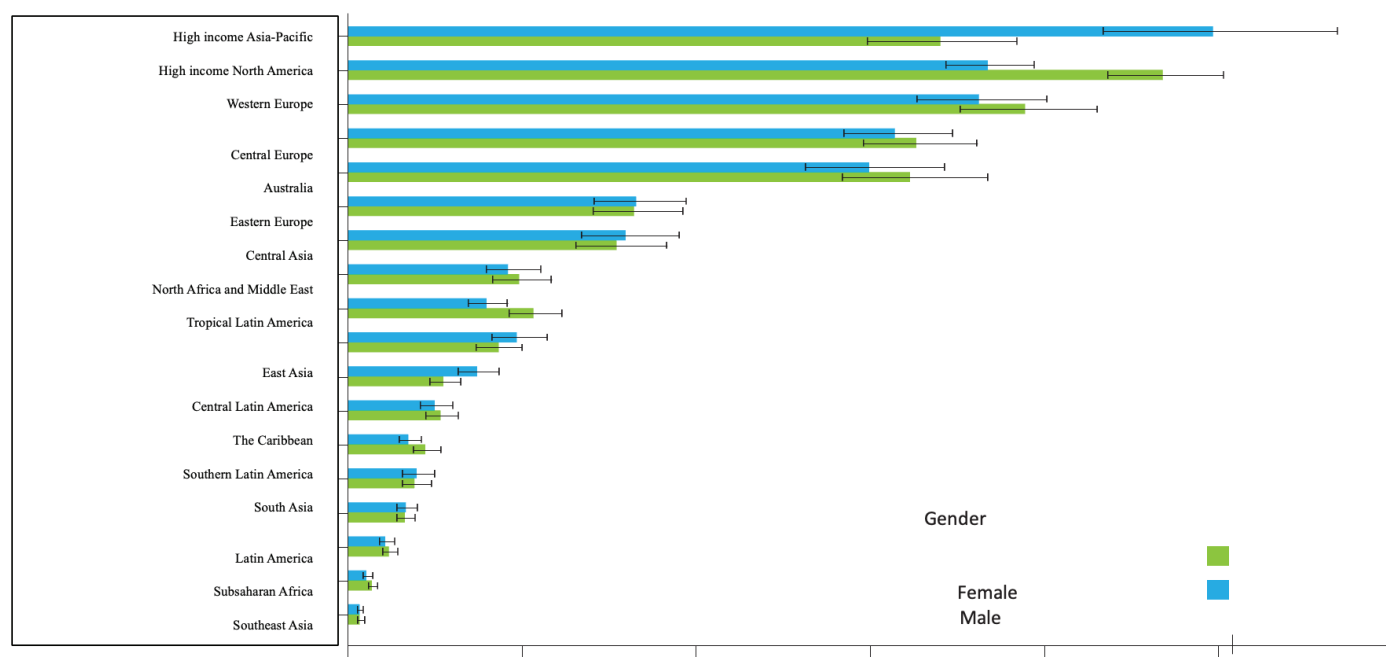


Figure 1. Age-standardized prevalence rate (per 100,000 population).

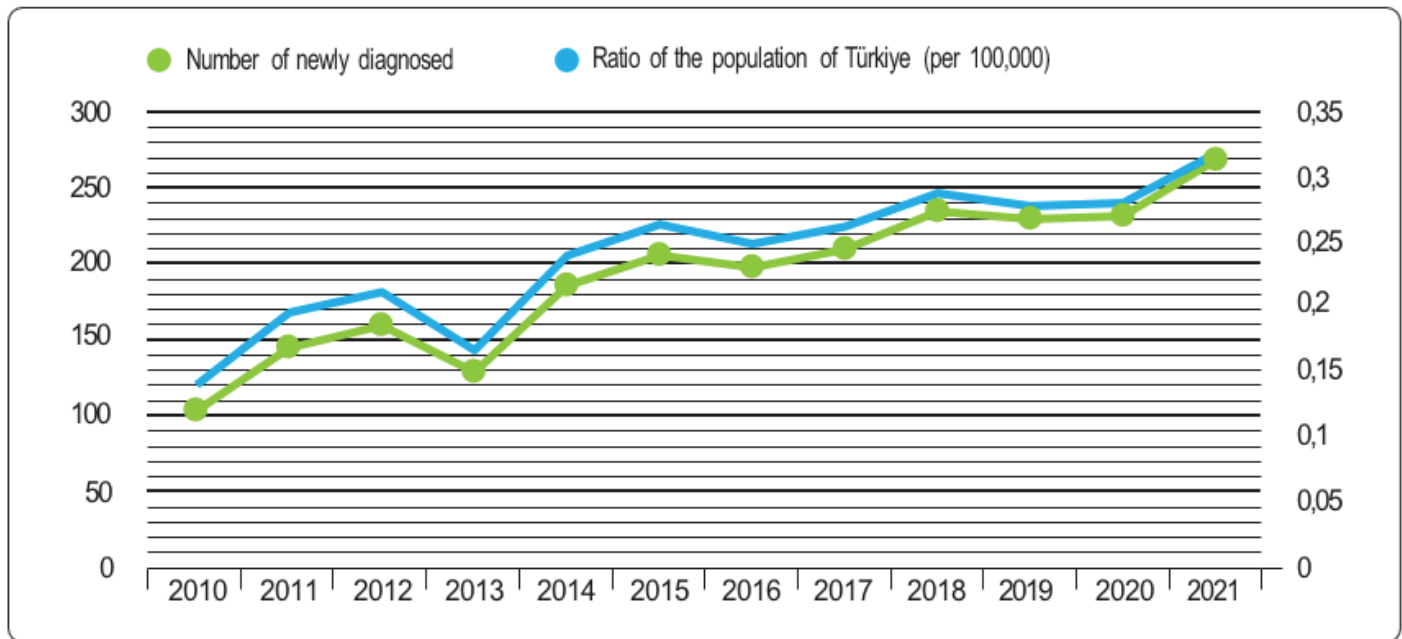


Figure 2. Number of newly diagnosed IBD patients per year and the ratio of the average population of Türkiye.

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