

# Prevalence of Irritable Bowel Syndrome in Northern India

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**Article:** Prevalence of irritable bowel syndrome: A community based study from Northern India

Makharia GK, Verma AK, Amarchand R, et al  
(*J Neurogastroenterol Motil* 2011;17:82-87)

Irritable bowel syndrome (IBS) is a recurrent disorder characterised by chronic abdominal pain or discomfort (often bloating), in association with altered generation and interpretation of bowel function, which is not accompanied by anatomical anomalies or biochemical abnormalities. Symptoms tend to vary in manifestation and time course, worsen during flares, and affect patient's quality of life.<sup>1</sup> A dysregulation of the brain-gut axis that interacts with visceral hypersensitivity and associated with observed digestive motor disturbances and micro-inflammation of the gut, with possibly an imbalance of the intestinal bio-flora. These are factors that may be responsible for the symptoms generation. Psychosocial stressors may then interact with biological factors and are modulated by cultural beliefs and practices resulting in variations on observed symptoms constellation and health seeking behaviours, a biopsychosocial disorder.

A better outcome is achievable if a positive diagnosis of IBS is made, based on clinical symptoms (in the absence of alarm signs) alone, rather than making a diagnosis by exclusion. Several diagnostic criteria exist and each new criterion refers to the insufficiencies of the previous ones. The most commonly accepted diag-

nostic criteria include the original Manning criteria and the subsequent series of "Rome foundation" defined criteria. A formal definition according to the Rome III criteria is recurrent abdominal pain or discomfort for at least 3 days per month during the previous 3 months associated with two or more of the following with onset at least 6 months before diagnosis: (1) symptoms improvement with defecation, (2) onset associated with a change in the frequency of stools and (3) onset associated with a change in form or appearance of stools.<sup>1-4</sup>

The prevalence of IBS varies across the world, ranging from as high as 10%-20% in the West,<sup>5,6</sup> to as low as 4.2% in India.<sup>7</sup> There is a perception that IBS is less of a problem in Asia and its epidemiology to be different. In addition, the prevalence rates of IBS itself vary in Asia with higher rates being documented from more affluent urban communities of Japan, Singapore and Guangzhou in China.<sup>8-10</sup> Prevalence rates also differ within the same country (Beijing 7.3% and Guangzhou 12%) and within the same racial community from different countries.<sup>8,11,12</sup> Such observed differences may be due to the different criteria (Manning vs Rome II vs Rome III) used to diagnose IBS or due to a different

Received: December 7, 2010 Revised: December 17, 2010 Accepted: December 18, 2010

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Financial support: None.

Conflicts of interest: None.

target population studied. However more recently, Park et al<sup>13</sup> reported similar prevalence rates using Rome II (8%) and Rome III criteria (9%) in a Korean IBS population.

In this study Makharia et al reported a prevalence rate of 4% which is in good agreement (4.2%) with a previous study by Ghoshal et al.<sup>7</sup> This is interesting as the population involved in both studies were quite different. Ghoshal looked at subjects from mainly the hospital/clinic setting (recruitment centres from Northern, Central and Southern India) while the present study was solely community based (Northern India). Furthermore Makharia's group used a questionnaire based on the new Rome III module while Ghoshal's "local criteria" was more clinical and practical. Yet the resulting prevalence rates from both centers were quite similar. The observed prevalence rate is low compared to data from other Asian centers and also lower than the Western prevalence rates. We would expect lower prevalence rates from a rural community in Northern India, as IBS is recognized to be a disorder of developed nations and communities.<sup>8-10</sup> However, Ghoshal's hospital based study confirmed that the prevalence rate is indeed low in India.

One possible explanation for the low prevalence rate could be from the use of different diagnostic tools or criteria for the detection of a variable condition that is solely symptom based. One of the weaknesses of this study is that the used questionnaire was not validated for the study population. This might affect the quality of data acquired. However, a study from Nam et al<sup>14</sup> using validated Rome III criteria in Korea gave a prevalence rate of 8.2% which is still lower than the prevalence rates observed from communities in Europe or America.

Another unique observation is the much higher incidence of diarrhea predominant IBS (1.5%) compared to IBS constipation (0.3%). This was also reported from Ghoshal's study who also suggested that in general, Indians tend to pass 1-2 soft stool per day. This may be due to the higher fiber intake and faster gut transit time. Is it possible that another form of "functional bowel" or IBS exist in this sub-continent which is different from the West? Western patients tend to be more "neurotic" compared to the Asian patients who are more likely to be "post infectious." This difference may also arise from other contributing factors such as race, different cultural practices, variation in food intake and co-existing lactose intolerance.

The other notable difference reported from this study is the increasing prevalence of IBS with advancing age, with the maximum in the 50-60 age groups. Across Asia, it has been noted that the prevalence of IBS is higher in the younger age group.<sup>8,9,11,12,15,16</sup> In

a rural community where the younger folks need to work hard for daily sustenance, symptoms of abdominal discomfort or alteration of bowel pattern is often too trivial to be considered as abnormal enough to visit the hospital. The time of day in which the study was conducted in this native rural community of Northern India would also be important.

The often quoted male preponderance in Asian Indian IBS population was not demonstrated in this study. The prevalence of IBS was significantly higher in females compared with males. In the previous study by Ghoshal et al<sup>7</sup> the subset of complainants in the study group showed a distinct predominance of male gender (68% vs 32%). The explanation given by the authors is that in a male dominant society, the health seeking behaviour of males can best account for the disparity in prevalence rates seen in the hospital/clinic setting compared to a rural community setting.

In conclusion, this study by Makharia et al is the first large scale IBS study in India using the Rome III criteria. However, this study has few limitations. Firstly, the diagnostic tool used, the Rome III questionnaire was not validated for this population. Secondly, it was also noted that the Glasgow pictorial stool chart was not used to determine stool forms. Even if patients can describe their stool forms adequately, pictorial definition is still the best method of evaluation since patient's perception is often very different from the actual stool form. Despite all of these, this study has contributed to a better understanding of the epidemiology of IBS in India, by providing an alternative view point to the more accepted norms.

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