SPECIAL FEATURE

# A Cross-Cultural Perspective on Irritable Bowel Syndrome

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OUTLINE



## ABSTRACT

Irritable bowel syndrome is a functional gastrointestinal illness, defined by symptoms. Irritable bowel syndrome has been described as a biopsychosocial condition, in which colonic dysfunction is affected by psychological and social factors. As a result of this unusual constellation, irritable bowel syndrome may be subject to cultural variables that differ in different parts of the globe. In this article, we describe some of the ways in which irritable bowel syndrome may be experienced differently, depending on local belief systems, psychological pressures, acceptance or resistance to a mind-body paradigm, and breakdown in support or relationship structure. Examples are given in which irritable bowel syndrome investigators from countries around the world describe various aspects of the syndrome that may affect the illness experience of their patients. We describe our own research studies that have demonstrated possible adverse effects on disease severity from relationship conflict, attribution of symptoms to physical rather than emotional cause, and the belief that irritable bowel syndrome is enduring and mysterious. Also described is our finding that symptom patterns may differ significantly between different geographic locations. Finally, we discuss the importance of "cultural competence" on the part of healthcare professionals in regard to caring for patients of diverse cultural backgrounds. ***Mt Sinai J Med 77:707–712, 2010.*** *© 2010 Mount Sinai School of Medicine*

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Most illnesses occur on a global scale. Many of them manifest themselves the same way in different geographic locations. Although leading American medical journals now contain a much higher percentage of research articles from other countries than in the past, there generally remains a Western-centric description of disease. This ignores the possibility that there are some illnesses that may manifest themselves differently in different places, depending on a number of local variables such as belief systems, psychosocial factors, diet, and socioeconomic changes. Recent studies suggest that irritable bowel syndrome (IBS), a functional gastrointestinal (GI) disorder defined by symptoms of abdominal pain or discomfort and a disordered bowel habit, may be such an illness.

## A CROSS-CULTURAL PERSPECTIVE

*Irritable bowel syndrome is a prototypical biopsychosocial condition affected by local beliefs and traditional belief symptoms.*

The GI tract functions normally through a myriad of finely tuned interactions between smooth muscle,

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the autonomic and enteric nervous system, local neurotransmitters, and hormones. This function can be perturbed, at least in part, by emotional factors, leading to a series of functional syndromes including noncardiac chest pain, nonulcer dyspepsia, and IBS. This had led to common expressions such as "gut feelings," "butterflies in the stomach," and "scared s...less," folk wisdom supported by scientific study.

How can local beliefs and traditional belief systems affect IBS, a prototypical biopsychosocial conditon?[1] Kleinman, a pioneer in the area of medical anthropology, says, "Illness behavior is a normative experience governed by cultural rules."[2] Those rules can include how symptoms are perceived, expressed, and coped with. Kleinman gives an example of a Chinese patient suffering from major depression whose symptoms were expressed as weakness, back pain, weight loss, and heaviness in his feet; they were attributed by the patient to sexual excess, but the patient denied any psychological distress. Kleinman also describes Chinese patients who suffered emotionally from the Cultural Revolution but were only able to express this through somatic complaints.[3]

Irritable bowel syndrome is an unusual syndrome in that it is defined by a set of symptoms rather than pathologic findings or biomarkers. Patients complain about abdominal pain, a disordered bowel habit, bloating, distension, and gas, all of which contain a subjective element. Irritable bowel syndrome is considered a mind-body illness with a circular pattern: physical symptoms may affect emotions, and in turn, emotional distress affects symptoms.

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Is it possible that beliefs may have an impact on the IBS illness experience? We have published several articles that suggest this to be the case. In a survey of IBS patients in 8 countries, to be described in greater detail below, subjects were asked to what degree they attributed their GI symptoms to physical or emotional causation.[4] Those with greater attribution to emotional factors had lower symptom severity, whereas patients who gave greater weight to physical causation had higher symptom severity. One possible explanation of these findings is that cultural resistance to emotional causation may result in increased somatic symptomatology, similar to the Chinese patient described above.

We also found that several negative beliefs—for example, that IBS symptoms will be enduring and that IBS is a mysterious illness (poorly understood)—correlated with greater symptom severity.[5] A sense of mystery surrounding illness may be more injurious in one culture than another. Belief by IBS patients that the condition will endure has also been reported elsewhere and was correlated with another negative belief, that patients have little control over outcome.[6]

What other effects can local variables have on the IBS experience? Irritable bowel syndrome seems to be affected by geographic dislocation, as illustrated by Bedouins living in Israel who were found to have a significantly higher prevalence of IBS after being moved to urban housing compared with Bedouins still living a nomadic existence.[7] Taking a population out of its natural habitat, especially if done forcibly, clearly can lead to various stresses that may affect health. There is a trend upward in IBS prevalence in the developing world, exemplified by 2 studies in Singapore in which IBS prevalence increased from 2.3% to 11% from 1998 to 2004, using the same symptom criteria.[8] In addition to the obvious stresses of urban life, cultural variables may include the change from extended family to nuclear family, with an associated diminution of social or community support. Low social support has been reported as a feature of IBS.[9]

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An important cross-cultural area is cultural competence on the part of the health professional, defined as an ability to interact effectively with people of different cultures.[10] For example, if a physician

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with strong biomedical beliefs is treating a patient with traditional beliefs, there will be a profound

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disconnect in the treatment approach. In the book *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures*,[11] Fadiman describes a Hmong child with epilepsy whose family belief was that medical cure must include a ritual sacrifice of a goat. Unresolved conflict with the child's physicians resulted in rejection of Western medical treatment and the death of the child.

We have been actively engaged in IBS cross-cultural research and have also been editing comments by international colleagues for a Functional Brain-Gut Research Group biannual newsletter. In this review, we will describe our own research findings and give some examples of our colleagues' observations. Their descriptions exemplify the kinds of cultural differences that can affect the way that IBS is experienced in different locations around the globe. They also show the potential difficulties that healthcare professionals in the United States may have if they encounter patients from other cultures.

There are some important caveats when comparing different cultures with different languages. One obvious issue is translation of questionnaires. One of our research collaborators, Ami Sperber of Israel, has written extensively about validation of translated questionnaires.[12] We and our colleagues used the back-translation method, considered to be a valid process. Our questionnaires were translated by a bilingual individual into the native language. Then a second bilingual person translated the local language back into English. Where discrepancies occurred between the original text and the back-translated text, the conflict was resolved to the satisfaction of the 2 consultants. We are confident that the back-translation method accounts for important differences in the cultural meaning of subjective distress, such as pain or bloating.

Another issue is the cross-cultural validity of measures. Fortunately, the Quality of Relationship Inventory (QRI), one of our research questionnaires that is most likely to be affected by cultural beliefs, has been used in different populations. In a study that compared the QRI in American students and first-generation Vietnamese students, internal consistency of responses for both groups were compared to each other and to previously published data, and alpha coefficients were highly similar for both groups.[13] We were encouraged by this cross-cultural validation data, but we recognize that application of the QRI to other cultures might be more variable.

## OUR CROSS-CULTURAL RESEARCH

We have completed an 8-country survey of IBS around the globe and are currently in the midst of a more extensive 9-country survey. Both are mainly focused on psychosocial variables but also include symptom severity and symptom patterns. Details have been published elsewhere.[4,14]

In the completed study, we collaborated with IBS investigators in Mexico City; Montreal, Canada; London, England; Bari, Italy; Beersheva, Israel; Kolkata, India; and Beijing, China.[4] The psychosocial variables were family relationships, as well as the degree to which IBS patients attribute their symptoms to emotional or physical causality. The major symptom patterns seen in IBS patients (abdominal pain, constipation, diarrhea, and bloating) were compared from country to country.

Thirty patients were surveyed at each site, most of which were tertiary care centers. Symptoms were assessed with a Bowel Symptom Scale that measured the 4 symptoms utilizing a Likert scale. Family dynamics were measured by the QRI and included subscales for family support, depth, and conflict. A mind-body IBS questionnaire was used for emotional or physical attribution. It contained 10 questions each, describing possible physical or psychological etiology of IBS symptoms.

Composite results for the psychosocial variables were quite significant. Severity of symptoms was highly correlated with conflict in the family, whereas support and depth correlated with low symptom severity. Interestingly, attribution of symptoms to physical causality correlated significantly with higher symptom score, and emotional causality correlated with lower symptom score.[4] Our results are consistent with other reports showing that relationship conflict may adversely affect many illnesses.[15]

*A survey of irritable bowel syndrome patients in 8 countries revealed that the severity of symptoms was highly correlated with conflict in the family. In addition, a patient's attribution of symptoms to physical causality correlated significantly with higher symptom score, and emotional causality correlated with lower symptom score.*

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The other arm of this study was a comparison of symptoms between countries.[14] Ours is the first investigation of geographic symptom differences on a global scale. Most cross-cultural research in IBS is restricted to prevalence rates. Interesting differences between countries were noted. Of the 8 countries studied, China had significantly higher diarrhea scores than 5 other countries. It is possible that the intestinal flora in Chinese subjects is different than in subjects in the other countries studied because of local gut contamination. This is relevant, because IBS is known to follow acute gastroenteritis and may be affected by mucosal inflammation. Mexican subjects had significantly higher constipation scores, confirmed in another publication,[16] and this is likely to be related to a high-starch diet.

We are now engaged in a larger study of psychosocial variables involving 500 patients at 10 study sites around the world: New York City and Los Angeles in the United States, plus Mexico, Nicaragua, Germany, Italy, Iran, India, China, and Japan. We are assessing the ways in which attachment style, pain beliefs, and catastrophizing are correlated with IBS symptom severity.

## VIEWS OF IRRITABLE BOWEL SYNDROME AROUND THE GLOBE

The following are condensed versions of commentaries submitted by our international colleagues, who were asked to describe IBS in their respective countries.

### Sendai, Japan

Dr. Shin Fukudo reports that epidemiological studies of IBS in Japan have shown a similar prevalence to data from the United States, probably reflecting Japan's relatively advanced economic and urbanized status. Belief systems of Japanese people are in a transition state. Traditionally, there has been a strong belief in the connection between mind and body. Certain expressions represent this belief; for example, to say "moving gut" means getting angry, and "showing inside the body" signifies not revealing one's secrets.

However, modern concepts are displacing this holistic belief with a more dichotomized view of mind and body. Physicians have encouraged this change by conceptualizing IBS as either purely organic or purely psychogenic. This is unfortunate for 2 reasons: the rejection of a biopsychosocial model makes it more difficult to help patients; and if patients are viewed as burdened only by psychological distress, they still resist psychological treatment because of the stigma associated with it. Unfortunately, in many of the countries we have studied, referral to mental health professionals is viewed as signifying severe psychiatric disease, an attribution somewhat shifted in our own culture. Secondly, the focus on organic disease rather than functional illness leads to excessive testing and procedures.

In both the United States and Japan, there is a dynamic tension between Western and holistic beliefs. Among patients, the pendulum seems to be slowly turning back to a more holistic approach, but this has been coupled with significant resistance by the medical profession.

### Kolkata, India

Our colleague Abhijit Chowdhury describes a unique set of beliefs in his Indian patients. Although India has a strong tradition of Ayurvedic medicine based on humors like bile and soul, this is being supplanted by other beliefs. However, those beliefs cannot be described as modern in the Western sense, as there is a strong prevailing opinion held by patients and physicians that IBS symptoms are caused by giardiasis, without documentation. There is also a strong belief that passage of flatus is critical for symptom relief, not only for IBS, but also for migraine headaches. Though IBS is often associated with anxiety or depression, there is a strong taboo against being labeled as psychologically unstable.

Another interesting cultural aspect related to the care of IBS patients in India concerns gender. It has long been reported that the usual female predominance in IBS is reversed in India, based on several research studies performed in the 1980s and 1990s that are frequently quoted. Dr. Chowdhury explains that the male predominance in prevalence studies is related mainly to the fact that healthcare is primarily accessed by males. In rural areas, where the majority of Indians live, there is a strong gender bias that keeps females in a relatively subservient role, often prevented from accessing the same medical care available to men. With modernization, it is likely that the unusual gender ratio reported in India will change as women have improved access to healthcare.

### Mexico City, Mexico

Dr. Max Schmulson reports that emotions and their expression are an important part of Mexican culture. As a result, it is generally accepted that IBS is related, at least in part, to stressful situations, usually

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involving the family. As one patient stated, "Stress generates my symptoms. I'm stressed because of my husband, who has a very bad character and has fights constantly, for example in restaurants."

The emphasis on family reveals a phenomenon, documented in many studies of family dynamics and illness, that intimate relationships can have a significant effect on health. We frequently encounter this in our patients and feel that recognition and discussion of family interactions around the IBS patient is an important part of the treatment process.

The term "macho" is obviously of Spanish origin and adds a particular flavor to the IBS experience in Mexico. Women are much more open about discussing their GI symptoms than are men, who find this embarrassing and tend to express their concerns about the IBS experience by joking.

## Hong Kong

Our colleague Grace Wang has described a very different concept of illness in her IBS patients in Hong Kong than we see in the United States. Chinese patients consider themselves to be intimately connected to their environment. If they are ill, they are out of balance with their environment; they see that balance, for example, in terms of yin and yang, hot and cold, or dry and damp.

As a result, Chinese patients feel an unusual degree of responsibility for their illness and seek to remedy it by re-establishing balance through eating various hot or cold foods that would not make sense to a Western physician. Patients with IBS often seek the help of traditional healers, who may have more to offer than Western medicine because their treatment will be more congruent with the patient's belief system.

## Bucharest, Romania

Dan Dumitrascu, an IBS investigator in Romania, describes a very different situation in that country. Romania has gone through a very difficult political history, enduring a suppressive Communist regime for many years until the breakup of the Communist world. While this caused a great deal of stress that may have been manifested, in part, by GI functional symptoms, the government suppressed medical research in this area, and the political use of psychiatry resulted in an aversion to seeking psychological help.

Some IBS research started taking place in the 1990s. Dr. Dumitrascu describes psychosocial stress in his patients, yet there is still an avoidance of psychological help, though people are starting to see psychologists—not psychiatrists, who are associated with political suppression. Probably because of the politicization of mental health treatment, beliefs about IBS vary but tend toward motility disturbance and intestinal infection.

## Bari, Italy

Piero Porcelli states, "It is a strong popular belief in Italy (at least in the south of Italy, where I live and work) that somatic discomfort and illness is caused by interpersonal distress, mainly in family and emotional relationships. Family is highly valued in our culture, not only as a place of safety and acceptance, but also as a place of personal identity, so that problems in family relationships and communication can be experienced (at a conscious as well as unconscious level) as a sort of decrease in personal strength, a part of the self that is damaged by the conflicts with relatives." This is an excellent example of the way that community and cultural rules quoted from Kleinman can affect an illness like IBS.

Dr. Porcelli also describes how southern Italy is experiencing a shift from the old family physician with a holistic and empathic approach to the new, more technological physician focused on test results. In a survey he conducted, 30% of patients complained that their symptoms are due to physicians who do not understand their health problems.

# CONCLUSION

Through our work, we have demonstrated that it is possible to conduct international research with colleagues in far-reaching locations, using the Internet in what might be called research collaboration without walls. We believe that it is important to realize that the way we see illness manifested in the United States may not be representative of the rest of the world.[17] Global study gives us a more complete picture of an illness and also can help us to improve our treatment of patients who come from distant cultures.

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# DISCLOSURES

*Potential conflict of interest:* Nothing to report.

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