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BRIEF COMMUNICATION

## Increase in Mexican and Latin American scientific articles on irritable bowel syndrome<sup>☆</sup>



R. Porras<sup>a</sup>, A. López-Colombo<sup>b</sup>, M. Schmulson<sup>a,\*</sup>

<sup>a</sup> Laboratorio de Hígado, Páncreas y Motilidad (HIPAM), Unidad de Investigación en Medicina Experimental, Facultad de Medicina, Universidad Nacional Autónoma de México (UNAM), Hospital General de México, Mexico City, Mexico

<sup>b</sup> Dirección de Educación e Investigación en Salud, Unidad Médica de Alta Especialidad (UMAE), Hospital de Especialidades Centro Médico Nacional Manuel Ávila Camacho, Instituto Mexicano del Seguro Social (IMSS), Puebla de Zaragoza, Puebla, Mexico

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### KEYWORDS

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Articles

### Abstract

**Background:** There is an implied perception that little scientific information on irritable bowel syndrome (IBS) comes out of Mexico and Latin America in the international medical literature, but the number and tendencies of articles from the region on IBS are not known.

**Aims:** To determine the number and type of Mexican and Latin American articles on IBS published between 1990-2015.

**Methods:** A systematic search of Medline was carried out employing the terms «Irritable Bowel Syndrome» or its abbreviation (IBS). Mexico and every other Latin American country were added to specify the search. The articles were selected if they were published in Mexico and/or the rest of Latin America, if they were international papers on IBS in the region, or if they were written by Mexican and/or Latin American authors. In addition, the articles were classified into the following categories: Review Articles/Editorials/Letters to the Editor (REV/ED), studies emphasizing aspects of Epidemiology/Quality of Life/Psychosocial Factors (EPI/QOL), articles dealing with Diagnoses (DX), with Treatment (TX), and Translational/Pathophysiologic studies (TRANS).

**Results:** A total of 66 articles from Mexico and 47 from Latin America were identified, but only 87.7 and 48.9%, respectively, fit the selection criteria. Category distribution was: EPI/QOL: 36.2%, REV/ED: 27.5%, TRANS: 18.8, TX: 10%, and DX: 7.5% and was similar between Mexico

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\* Corresponding author. Laboratorio de Hígado, Páncreas y Motilidad (HIPAM), Unidad de Investigación en Medicina Experimental, Facultad de Medicina, Universidad Nacional Autónoma de México (UNAM), Hospital General de México, Dr. Balmis #148, Col. Doctores C.P. 06726, México D.F. México. Tel.: +52 5556232673; fax: +52 5556232669.

E-mail address: [maxjulio@prodigy.net.mx](mailto:maxjulio@prodigy.net.mx) (M. Schmulson).

and Latin America ( $p = 0.33$ ). The year 2005 saw an increase in the number of articles in Mexico, with a peak in 2010. The figures for Latin American articles remained stable over the years, with a peak in 2012.

**Conclusions:** A noticeable increase has been observed over the last decade in the research conducted on IBS in Mexico and Latin America. Even though the EPI/QOL studies predominate, the sophistication of research is reflected in the TRAS studies that are in third place of frequency. The information referred to herein demonstrates maturity in the field, making it possible to carry out consensus based on local data.

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## PALABRAS CLAVE

Síndrome de intestino irritable;  
Epidemiología;  
México;  
Latinoamérica;  
Investigación;  
Artículos

## Incremento en las publicaciones científicas sobre síndrome de intestino irritable en México y Latinoamérica

### Resumen

**Antecedentes:** En la literatura internacional se crea la idea de que la información científica sobre el síndrome de intestino irritable (SII) en México y Latinoamérica es escasa. Sin embargo, se desconoce el número y la tendencia de las publicaciones sobre SII en la región.

**Objetivo:** Determinar el número y tipo de publicaciones sobre SII en México y Latinoamérica entre 1990-2015.

**Métodos:** Búsqueda sistemática en Medline empleando los términos «síndrome de intestino irritable» o su abreviatura (IBS) en inglés, cruzándolo con México y cada país de Latinoamérica. Los artículos se seleccionaron según hubieran sido publicados en México y/o Latinoamérica; publicaciones internacionales sobre SII en la región o por autores mexicanos y/o latinoamericanos. Además se clasificaron en categorías: Revisión/Editorial/Cartas al Editor (REV/ED), Epidemiología/Calidad de vida/Factores psicosociales (EPI/QOL), Diagnóstico (DX), Tratamiento (TX), Traslacional/Fisiopatología (TRAS).

**Resultados:** Se identificaron 66 publicaciones de México y 47 de Latinoamérica pero solo un 87.7% y un 48.9% respectivamente se ajustaron a los criterios de selección. La distribución de categorías fue: EPI/QOL, 36.2%; REV/ED, 27.5%; TRAS, 18.8%; TX, 10%; DX, 7.5%; similar entre México y Latinoamérica ( $p = 0.33$ ). Las publicaciones se incrementaron a partir del 2005 con un pico en 2010 en México, y se mantuvieron estables a lo largo de los años con un pico en 2012 en Latinoamérica.

**Conclusión:** En la última década se observa un aumento notorio en la investigación sobre SII en México y Latinoamérica. Si bien predominan los estudios EPI/QOL, la sofisticación se refleja en los TRAS que ocupan el tercer lugar. Lo anterior demuestra una madurez que permite realizar consensos basados en datos locales.

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## Introduction

There is an implied perception of low scientific production in the field of functional gastrointestinal disorders, and especially irritable bowel syndrome (IBS), in Latin America. In fact, a systematic review of the medical literature on the overall prevalence of IBS based on open population studies concluded that there is a lack of studies on the prevalence and epidemiologic characteristics of this disorder, especially from Central America, and that there are few studies from South America.<sup>1</sup> The review only identified 4 South American articles, one of which was not really an open population study.<sup>2</sup> This is important, given that IBS has a reported incidence of 9-16%<sup>3</sup> and is among the 5 most frequent gastrointestinal disorders.<sup>4</sup>

Because our perception is that there is an increase in IBS research in the region, our aim was to carry out a search on Medline covering the last 25 years. Our hypothesis was that there has been an upsurge in the number of articles on IBS in Mexico and Latin America.

## Methods

A search was carried out on Medline encompassing the time frame of January 1, 1990 to April 1, 2015. Due to our specific interest, Mexico and Latin America were searched separately. The terms "Irritable Bowel Syndrome" or "IBS" were used, matching them with "Mexico" or "Latin America". Because no result was found with "Latin America",

the search was repeated with the names of each of the Latin American countries. Two of the present authors (RP, MS) individually reviewed the abstracts of each of the identified articles, and when necessary, the complete article, to corroborate that they met the selection criteria. Said criteria were: 1) Articles on IBS published in Mexico and/or Latin America, and/or 2) International articles that referred to IBS in the region, and/or 3) Articles on IBS written by Mexican and/or Latin American authors. The same 2 authors then met to jointly decide which articles fit the selection criteria; they excluded articles that were not really about IBS, articles that were about IBS, but not from Mexico or Latin America, or articles that were not written by authors from the region. In addition, the articles were classified into 5 categories: Reviews/Editorials/Letters to the Editor (REV/ED), Epidemiology/Quality of Life/Psychosocial Factors (EPI/QOL), Diagnostic (DX), Treatment (TX), and Translational/Pathophysiologic (TRANS) studies. In the results, the articles are described by year, the country of the authors, and the corresponding categories. The frequency of the categories was compared between Mexico and Latin America. The mean number of articles was described per year. A graph was plotted with the number of articles per year to determine if there was an increase in the publications within the time frame of interest, separating Mexico from the rest of Latin America. The results were expressed as frequencies and the comparisons were made using the Fisher exact test. Statistical significance was set at a  $p < 0.05$ .

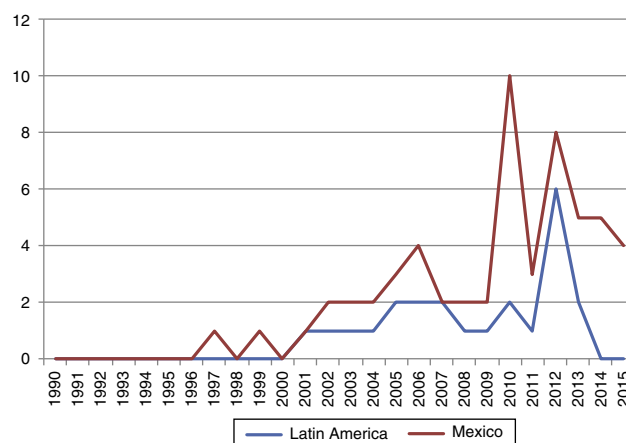
## Results

A total of 66 publications from Mexico and 47 from the rest of Latin America were identified. Of the former, 57 (87.7%) met the selection criteria, and of the latter, 23 (48.9%). Table 1 shows the articles according to the different categories in the following order of frequency: EPI/QOL, 36.2%; REV/ED, 27.5%; TRANS, 18.8%; TX, 10%; and DX, 7.5%. There were no differences in the categories between Mexico and Latin America: EPI/QOL, 42.1% vs 21.3%; REV/ED, 24.5% vs 34.8%; TRANS, 19.3% vs 17.4%; TX, 7.0% vs 17.4%; DX, 7.0% vs 8.7%;  $p = 0.33$ .

In Mexico approximately 3 articles/year were published on IBS, starting from 1997, whereas in the rest of Latin America 1.5/year were published starting from 2001. Furthermore, in 2005, there was an increase of 84.2% in the number of articles published in Mexico, reaching a peak in 2010 (fig. 1). In the rest of Latin America, even though the majority of articles (82.6%) were published starting from 2005, this remained stable through the years, with a peak in 2011. No references were found for 2014 (fig. 1).

## Discussion

In the present review using the Medline database, we identified an increase in publications on IBS in Mexico and the rest of Latin America, mainly from 2005-2010. Nevertheless, it should be noted that over twice as many articles were published in Mexico, compared with the other countries of the region. The most frequent articles were those related



**Figure 1** Number of articles per year in Mexico and the rest of Latin America.

to epidemiologic aspects, quality of life, and psychosocial aspects.

Even though we identified an important number of articles on Medline, it should be mentioned that there is a publication bias in that database. For example, there are articles published in local journals with well conducted epidemiologic studies that are not cited. Such is the case of a Uruguayan study,<sup>5</sup> as well as a Venezuelan study,<sup>6</sup> on IBS prevalence. We also observed in the search that letters to the editor<sup>7</sup> and even recent editorials<sup>8</sup> on IBS published in journals that are referenced in Medline were not identified. Therefore in order to carry out an adequate review on IBS in Mexico and Latin America it is necessary to analyze other databases, such as BIREME/Lilacs or SciELO.

With respect to the categories of the articles, it was not surprising to find that the majority corresponded to epidemiologic studies and articles on quality of life and psychosocial factors, perhaps because they are the simplest to conduct and generally only require the application of questionnaires. On the other hand, grouping these 3 aspects into a single category can explain its greater number of articles. To our surprise, the translational and pathophysiologic articles that require specialized laboratory techniques and researchers, and that would have been thought to be less frequent, were third place in frequency. This indicates the ever-increasing sophistication of research in this field in Mexico and Latin America. It should also be mentioned that some of the review articles are collaborations between authors from Latin America and other parts of the world.<sup>9,10</sup> This suggests the growing importance and leadership at the international level of certain Latin American researchers in the field of IBS.

Finally, the higher scientific production in regard to IBS in Mexico than in the other Latin American countries should also be noted. This is most likely due to the fact that there are greater funding for research in Mexico, and especially the fact that those physicians and basic scientists in academia are gaining more recognition and better-paying jobs. Such resources appear to be scarcer in the other Latin American countries, and the effort that persons in those countries must make to carry out research and publish deserves to be recognized.

**Table 1** Mexican and Latin American articles on IBS according to categories.

| Article  | Country    | Category |
|--|------------|----------|
| Awad RA, Martin J, Guevara M, Ramos R, Noguera JL, Camacho S, Santiago R, Ramirez JL, Toriz A. Defaecography in patients with irritable bowel syndrome and healthy volunteers. <i>Int J Colorectal Dis.</i> 1997;12:91-4.                                | Mexico     | DX       |
| Schmulson MW, Chang L. Diagnostic approach to the patient with irritable bowel syndrome. <i>Am J Med.</i> 1999;107:205-265.  | Mexico/USA | REV/ED   |
| Schmulson MJ. Brain-gut interaction in irritable bowel syndrome: new findings of a multicomponent disease model. <i>Isr Med Assoc J.</i> 2001;3:104-10.  | Mexico     | REV/ED   |
| Campos Hurtado G, Villareal Menchola J, Cornejo Zapata C, León Barúa R. [Prevalence of Manning's symptoms in a Lima upper socioeconomic level population]. <i>Rev Gastroenterol Peru.</i> 2001;21:301-5.   | Peru       | EPI/QOL  |
| Norman P. Tegaserod (Novartis). <i>IDrugs.</i> 2002;5:171-9.   | UK         | TX       |
| Huerta I, Bonder A, López L, Ocampo MA, Schmulson M. [Differences in the stress symptoms rating scale in Spanish between patients with irritable bowel syndrome (IBS) and healthy controls]. <i>Rev Gastroenterol Mex.</i> 2002;67:161-5.                | UK         | EPI/QOL  |
| Curioso WH, Donaires Mendoza N, Bacilio Zerpa C, Ganoza Gallardo C, León Barúa R. [Prevalence and relation of dyspepsia to irritable bowel syndrome in a native community of the Peruvian jungle]. <i>Rev Gastroenterol Peru.</i> 2002;22:129-40.        | Peru       | EPI/QOL  |
| Zetina-López A, Custodio-Vázquez A, Hinojosa C, Juárez-Paiz L, Schmulson M. [Impact of gastrointestinal symptoms on health related quality of life in patients with type 2 diabetes mellitus]. <i>Rev Invest Clin.</i> 2003;55:594-9.                    | Mexico     | EPI/QOL  |
| Quera R, Valenzuela J. [Visceral hypersensitivity: a concept within our reach]. <i>Rev Med Chil.</i> 2003;131:85-92.   | Chile      | REV/ED   |
| Gómez-Escudero O, Schmulson-Wasserman MJ, Valdovinos-Díaz MA. [Post-infectious irritable bowel syndrome. A review based on current evidence]. <i>Rev Gastroenterol Mex.</i> 2003;68:55-61.   | Mexico     | REV/ED   |
| Okhuysen PC, Jiang ZD, Carlin L, Forbes C, DuPont HL. Post-diarrhea chronic intestinal symptoms and irritable bowel syndrome in North American travelers to Mexico. <i>Am J Gastroenterol.</i> 2004;99:1774-8.   | USA        | EPI/QOL  |
| Sánchez RC, Navarro Cano G. [Diagnostic value of limited research in patients with irritable bowel syndrome]. <i>Rev Gastroenterol Mex.</i> 2004;69:24-9.  | Mexico     | DX       |
| Montes R, Monge E. Lactose malabsorption and IBS. <i>Scand J Gastroenterol.</i> 2004;39:1033;  | Peru       | REV/ED   |
| Carmona-Sánchez R, Tostado-Fernández FA. [Prevalence of use of alternative and complementary medicine in patients with irritable bowel syndrome, functional dyspepsia and gastroesophageal reflux disease]. <i>Rev Gastroenterol Mex.</i> 2005;70:393-8. | Mexico     | TX       |
| Cornejo Zapata C, Villarreal Menchola J. [Relation between irritable bowel syndrome symptoms and depressive symptoms in hospitalized patients]. <i>Rev Gastroenterol Peru.</i> 2005;25:156-60.   | Peru       | EPI/QOL  |
| Otero Regino W, Gómez Zuleta M. [Irritable bowel syndrome: a concise diagnostic and pharmacological therapy review]. <i>Rev Gastroenterol Peru.</i> 2005;25:189-97.  | Colombia   | REV/ED   |
| Peláez-Luna M, Schmulson M, Robles-Díaz G. Intestinal involvement is not sufficient to explain hypertransaminasemia in celiac disease? <i>Med Hypotheses.</i> 2005;65:937-41.  | Mexico     | DX       |
| Mangel AW. Postinfectious IBS. <i>Am J Gastroenterol.</i> 2005;100:729.  | USA        | EPI/QOL  |
| Ariza JG, Martínez JA. [Pharmacoeconomics and outcome research on Irritable Bowel Syndrome review of findings using Tegaserod]. <i>Rev gastroenterol Peru.</i> 2006;26:77-9.   | Peru       | TX       |
| Leyva-Jiménez R, Olvera-Torres P, Alvarez-Córdova MM, Alcántar-Saldívar EL. [Irritable bowel syndrome in adults attending to medical offices at UMF]. <i>Rev Med Inst Mex Seguro Soc.</i> 2006;44:473-9.   | Mexico     | EPI/QOL  |
| Schmulson MJ, Ortiz-Garrido OM, Hinojosa C, Arcila D. A single session of reassurance can acutely improve the self-perception of impairment in patients with IBS. <i>J Psychosom Res.</i> 2006;61:461-7.   | Mexico     | REV/ED   |
| Schmulson M, Ortiz O, Santiago-Lomeli M, Gutiérrez-Reyes G, Gutiérrez-Ruiz MC, Robles-Díaz G, Morgan D. Frequency of functional bowel disorders among healthy volunteers in Mexico City. <i>Dig Dis.</i> 2006;2:342-7.                                   | Mexico     | EPI/QOL  |
| Defilippi G C, Quera P R, Madrid S AM, Defilippi C C, Valenzuela E J. [Rectal barostat in irritable bowel syndrome]. <i>Rev Med Chil.</i> 2006;134:1524-9.   | Chile      | DX       |

**Table 1** (Continued)

| Article  | Country   | Category |
|--|-----------|----------|
| Awad RA, Camacho S, Martín J, Ríos N. Rectal sensation, pelvic floor function and symptom severity in Hispanic population with irritable bowel syndrome with constipation. <i>Colorectal Dis.</i> 2006;8:488-93.   | Mexico    | EPI/QOL  |
| Remes-Troche JM, Adames K, Castillo-Rodal AI, Ramírez T, Barreto-Zuñiga R, López-Vidal Y, Uscanga LF. Intraepithelial gammadelta+ lymphocytes: a comparative study between celiac disease, small intestinal bacterial overgrowth, and irritable bowel syndrome. <i>J Clin Gastroenterol.</i> 2007;41:671-6.                | Mexico    | TRANS    |
| Soifer LO, Iantorno G, Bustos Fernández LM, Soifer G, Dima G, Peralta D, Besasso H. [Breath hydrogen levels do not predict fiber intolerance in irritable bowel syndrome with constipation]. <i>Acta Gastroenterol Latinoam.</i> 2007;37:15-9  | Argentina | TX       |
| Madrid AM, Defilippi C C, Defilippi G C, Slimming A J, Quera P R. [Small intestinal bacterial overgrowth in patients with functional gastrointestinal diseases]. <i>Rev Med Chil.</i> 2007;135:1245-52.  | Chile     | TRANS    |
| Schmulson M, Ortiz O, Mejia-Arangure JM, Hu YB, Morris C, Arcila D, Gutierrez-Reyes G, Bangdiwala S, Drossman DA. Further validation of the IBS-QOL: female Mexican IBS patients have poorer quality of life than females from North Carolina. <i>Dig Dis Sci.</i> 2007;52:2950-5.   | Mexico    | EPI/QOL  |
| Schmulson MJ. [Limited diagnostic testing can decrease the direct economic impact of irritable bowel syndrome]. <i>Rev Med Chil.</i> 2008;136:1398-405.  | Mexico    | DX       |
| de Medeiros MT, Carvalho AF, de Oliveira Lima JW, Dos Santos AA, de Oliveira RB, Nobre E Souza MA. Impact of depressive symptoms on visceral sensitivity among patients with different subtypes of irritable bowel syndrome. <i>J Nerv Ment Dis.</i> 2008;196:711-4.   | Brazil    | TRANS    |
| Reséndiz-Figueroa FE, Ortiz-Garrido OM, Pulido D, Arcila-Martínez D, Schmulson M. [Impact of the anxiety characteristics and depression on clinical aspects and quality of life in patients with irritable bowel syndrome]. <i>Rev Gastroenterol Mex.</i> 2008;73:3-10.  | Mexico    | EPI/QOL  |
| Remes-Troche JM, Carmona-Sánchez R, González-Gutiérrez M, Martínez-Salgado JC, Gómez-Escudero O, Ramírez A, Vázquez-Jiménez G, García-Leiva J, Abarca-Castrejon M, Roesch-Dietlen F. [What people mean by constipation? A general population based-study.]. <i>Rev Gastroenterol Mex.</i> 2009;74:321-8.                   | Mexico    | EPI/QOL  |
| Carmona-Sánchez R, Remes-Troche JM, Gómez-Escudero O, Icaza-Chávez ME, García-Leiva J. [Self-perception, colonic transit and characteristics of subjects seeking medical care for constipation in Mexico.]. <i>Rev Gastroenterol Mex.</i> 2009;74:187-94.  | Mexico    | EPI/QOL  |
| Gómez Alvarez DF, Morales Vargas JG, Rojas Medina LM, Mújica Oviedo SC, Camacho López PA, Rueda Jaimes GE. [Prevalence of irritable bowel syndrome and associated factors according to the Rome III diagnostic criteria in a general population in Colombia]. <i>Gastroenterol Hepatol.</i> 2009;32:395-400.               | Colombia  | REV/ED   |
| Schmulson M, Vargas JA, López-Colombo A, Remes-Troche JM, López-Alvarenga JC. [Prevalence and clinical characteristics of the IBS subtypes according to the Rome III criteria in patients from a clinical, multicentric trial. A report from the Mexican IBS Working Group]. <i>Rev Gastroenterol Mex.</i> 2010;75:427-38. | Mexico    | EPI/QOL  |
| Schmulson M, Adeyemo M, Gutiérrez-Reyes G, Charúa-Guindic L, Farfán-Labonne B, Ostrosky-Solis F, Díaz-Anzaldúa A, Medina L, Chang L. Differences in gastrointestinal symptoms according to gender in Rome II positive IBS and dyspepsia in a Latin American population. <i>Am J Gastroenterol.</i> 2010;105:925-32.        | Mexico    | EPI/QOL  |
| Awad RA, Camacho S. A randomized, double-blind, placebo-controlled trial of polyethylene glycol effects on fasting and postprandial rectal sensitivity and symptoms in hypersensitive constipation-predominant irritable bowel syndrome. <i>Colorectal Dis.</i> 2010;12:1131-8.  | Mexico    | TX       |
| Valerio-Ureña J, Vásquez-Fernández F, Jiménez-Pineda A, Cortázar-Benítez LF, Azamar-Jácome AA, Duarte-Velázquez ME, Torres-Medina V. [Prevalence of irritable bowel syndrome in Veracruz City, Mexico: a community-based survey]. <i>Rev Gastroenterol Mex.</i> 2010;75:36-41.   | Mexico    | EPI/QOL  |
| Schmulson M, Pulido D, Escobar C, Farfán-Labonne B, Gutiérrez-Reyes G, López-Alvarenga JC. Heartburn and other related symptoms are independent of body mass index in irritable bowel syndrome. <i>Rev Esp Enferm Dig.</i> 2010;102:229-33.  | Mexico    | EPI/QOL  |

Table 1 (Continued)

| Article  | Country    | Category |
|--|------------|----------|
| Camacho S, Bernal F, Abdo M, Awad RA. Endoscopic and symptoms analysis in Mexican patients with irritable Bowel syndrome, dyspepsia, and gastroesophageal reflux disease. <i>An Acad Bras Cienc.</i> 2010;82:953-62.   | Mexico     | EPI/QOL  |
| Reyes-Huerta JU, de la Cruz-Patiño E, Ramírez-Gutiérrez de Velasco A, Zamudio C, Remes-Troche JM. [Fructose intolerance in patients with irritable bowel syndrome: a case-control study]. <i>Rev Gastroenterol Mex.</i> 2010;75:405.   | Mexico     | EPI/QOL  |
| Rojas-Macías V, Rodríguez-Fandiño O, Jiménez-Ponce F, Saldivar-González JA, Melendro-Lozano E, López- Ivarenga JC, Raya-Santoyo SB, Santana-Vargas AD, Schmulson M. [External validity of a relevant model for Irritable Bowel Syndrome (IBS) using chronic stress by water avoidance in Wistar rats]. <i>Rev Gastroenterol Mex.</i> 2010;75:421-6.                      | Mexico     | TRANS    |
| Rodríguez-Fandiño O, Hernández-Ruiz J, Schmulson M. From cytokines to toll-like receptors and beyond - current knowledge and future research needs in irritable bowel syndrome. <i>J Neurogastroenterol Motil.</i> 2010;16:363-73.   | Mexico     | TRANS    |
| Ramírez-Miranda ME, Hernandez-Castellanos R, Lopez-Escamilla E, Moncada D, Rodriguez-Magallan A, Pagaza-Melero C, Gonzalez-Angulo A, Flisser A, Kawa-Karasik S, Maravilla P. Parasites in Mexican patients with irritable bowel syndrome: a case-control study. <i>Parasit Vectors.</i> 2010;3:96.   | Mexico     | REV/ED   |
| León-Barúa R. [Comments on irritable bowel syndrome]. <i>Rev Gastroenterol Peru.</i> 2010;30:52-4.   | Peru       | REV/ED   |
| Becker-Dreps S, Morgan D, Peña R, Cortes L, Martin CF, Valladares E. Association between intimate partner violence and irritable bowel syndrome: a population-based study in Nicaragua. <i>Violence Against Women.</i> 2010;16:832-45.   | USA        | EPI/QOL  |
| Ramírez-Miranda ME, Jiménez-González DE, Rodríguez-Campa ME, González-Angulo A, Hernández-Castellanos R, Sara Arroyo-Escalante A, Romero-Valdovinos M, Martínez-Hernández F, Flisser A, Maravilla P. [Irritable bowel syndrome: frequency and phylogenetic relationship of Blastocystis sp. from Mexican patients]. <i>Rev Gastroenterol Mex.</i> 2011;76:309-15.        | Mexico     | TRANS    |
| Schmulson M, Chang L. Review article: the treatment of functional abdominal bloating and distension. <i>Aliment Pharmacol Ther.</i> 2011;33:1071-86  | Mexico/USA | REV/ED   |
| Fosado-Gayosso M, Casillas-Guzmán GB, Serralde-Zúñiga AE, Pérez-Hernández JL, Higuera-de la Tijera MF, Pérez-Torres E, Abdo-Francis JM. [Association between anxiety and quality of life in different subgroups irritable bowel syndrome]. <i>Rev Gastroenterol Mex.</i> 2011;76.  | Mexico     | EPI/QOL  |
| Arévalo F, Aragon V, Montes P, Guzmán E, Monge E. [Increase of intraepithelial lymphocytes in patients with irritable bowel syndrome]. <i>Rev Gastroenterol Peru.</i> 2011;31:315-8.   | Peru       | TRANS    |
| Jimenez-Gonzalez DE, Martinez-Flores WA, Reyes-Gordillo J, Ramirez-Miranda ME, Arroyo-Escalante S, Romero-Valdovinos M, Stark D, Souza-Saldivar V, Martinez-Hernandez F, Flisser A, Olivo-Diaz A, Maravilla P. Blastocystis infection is associated with irritable bowel syndrome in a Mexican patient population. <i>Parasitol Res.</i> 2012;110:1269-75.               | Mexico     | TRANS    |
| Schmulson M. [Irritable bowel syndrome (IBS) in the 2012 DDW]. <i>Rev Gastroenterol Mex.</i> 2012;77.  | Mexico     | REV/ED   |
| Schmulson M, Pulido-London D, Rodriguez O, Morales-Rochlin N, Martinez-García R, Gutierrez-Ruiz MC, López-Alvarenga JC, Robles-Díaz G, Gutiérrez-Reyes G. Lower serum IL-10 is an independent predictor of IBS among volunteers in Mexico. <i>Am J Gastroenterol.</i> 2012;107:747-53.   | Mexico     | TRANS    |
| Schmulson M, Chey WD. Abnormal immune regulation and low-grade inflammation in IBS: does one size fit all? <i>Am J Gastroenterol.</i> 2012;107:273-5.  | Mexico     | REV/ED   |
| Chacaltana Mendoza A, Díaz Ríos R, Alva Alva E, Vásquez Valverde N, Celestino Morales C. [Perception of pain during sigmoidoscopy flexible as an additional diagnostic method for irritable bowel syndrome]. <i>Rev Gastroenterol Peru.</i> 2012;32:178-83.  | Peru       | DX       |
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**Table 1** (Continued)

| Article  | Country             | Category |
|--|---------------------|----------|
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**Table 1** (Continued)

| Article  | Country       | Category |
|--|---------------|----------|
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| Coss-Adame E, Rao SS. Brain and gut interactions in irritable bowel syndrome: new paradigms and new understandings. <i>Curr Gastroenterol Rep.</i> 2014;16:379.  | Mexico/USA    | REV/ED   |
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In conclusion, there has been an important increase in articles on IBS in Mexico and Latin America over the past years, reflecting the ever-growing maturity in the region in this field, making it possible for us to have consensus based on our own information. Additionally, in order to carry out adequate and unbiased systematic reviews, searches should also include local repositories.

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## Conflict of interest

The authors declare that there is no conflict of interest.

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