



From Heartburn to Constipation:  
Common GI Symptoms in the Community

# World Digestive Health Day

WDHD May 29, 2012



From Heartburn to Constipation  
Common GI Symptoms in the Community:  
Impact and Interpretation

# A SPECIAL 2012 WDHD SUPPLEMENT

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# World Digestive Health Day

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### 2012 World Digestive Health Day From Heartburn to Constipation Common GI symptoms in the Community: Impact and Interpretation



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Symptoms originating from the gastrointestinal tract, such as heartburn, indigestion / dyspepsia, constipation and bloating are very common in every community. In certain circumstances, they may indicate the presence of an underlying gastrointestinal disease process, such as esophagitis, peptic ulcer or cancer. For the majority of sufferers, however, these symptoms are occasional and do not indicate any underlying pathology and may be attributable to transient dietary or life-style issues. For others, symptoms are frequent, bothersome, or even disabling, yet formal investigation fails to reveal any structural or pathological abnormality and diagnoses such as non-erosive reflux disease (NERD), functional dyspepsia (FD), irritable bowel syndrome (IBS) and chronic constipation (CC) may be made.

It should come as no surprise that these symptoms (heartburn, indigestion, bloating and constipation) are frequently misinterpreted and their impact and significance misunderstood both by health care providers and sufferers. At one extreme, sufferers may ignore symptoms which are based on potentially life-threatening conditions and, at the other, minor and transient upsets are over-investigated and inappropriately treated. In between, lie a large number of individuals with GERD, FD, IBS and CC whose distress goes unappreciated and whose symptoms are incorrectly evaluated and managed.

The goal of the WDHD 2012 advocacy and public health awareness campaign, "From Heartburn to Constipation", therefore, is to help health care providers and sufferers alike understand the symptoms associated with these common GI conditions and the means by which they can be properly and effectively managed.

Through a multi-faceted approach, the WDHD 2012 campaign will endeavor to inform health care providers – among them physicians, pharmacists and allied health professionals – and the community at large of the prevalence and pathogenesis of these symptoms and present an evidence-based and patient-centered approach to their evaluation and management. This will involve, in the first instance, an appreciation of the global prevalence and impact of these symptoms; an approach that will ensure that any recommendations which are developed will be relevant and applicable world-wide. This WDHD campaign will seek to encourage dialogue on these GI issues and facilitate interactions between



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the sufferer and the range of health care professionals (from pharmacist to physician) involved in their management. In doing so, this will address such issues as: when these symptoms can be self managed, when over-the-counter remedies are appropriate and when to seek the advice and care of a physician?

To ensure the furthest reach possible during WDHD 2012, the WGO is committed to forming collaborations and relationships with related organizations and supporter partnerships. Through these and other collaborations, WDHD 2012 can impact on as physicians, patients, pharmacists and other health care professions – especially in low-resources regions – who can become more informed on common GI symptoms throughout this campaign. For this reason, WGO is very grateful for its 2012 organizational partners and corporate supporters.

The WGO and its various partners and supporters are currently creating many tools and resources to support this campaign. These include pieces such as 10 Global Nutritional Tips, 10 Tips for specific symptoms such as dyspepsia, constipation and IBS, a Food Diary, a Chronic Constipation leaflet, and various digestive health websites. These tools, surveys and resources have been created for the health care professional as well as the general public, and are available on the WDHD 2012 website, [www.wgofoundation.org/wdhd-2012.html](http://www.wgofoundation.org/wdhd-2012.html).

This special WDHD 2012 supplement represents a perfect start to the campaign as it relates precisely to Common GI Symptoms in YOUR Community. Here, you will find a broad selection of articles prepared by members of the wonderful WDHD 2012 Steering Committee (listed below) which, not only get to the heart of the matter through discussions of chronic constipation in the elderly, the differentiation of chronic constipation from constipation-predominant IBS, GERD, and the increasing burden of common gastro-intestinal symptoms and disorders in the community, but also provide a truly global snapshot. In this way we believe that this supplement is truly unique: wherever else will one get insights into common GI problems in Romania, Eastern Europe, Asia, India and North America. We have a lot to learn from different parts of the world regarding the impact of age, geography, ethnicity, diet, lifestyle and socio-economic factors on the presentation, impact and management of common issues such as IBS, chronic constipation and GERD.

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Here, you will also find a list of events that will take place in celebration of World Digestive Health Day 2012. Continue to watch for the monthly WGO *e-Alert* and the quarterly WGO *e-WGN* for an in-depth look at events happening around the world, and also for news on new resources and tools.

We welcome your feedback!

### WDHD 2012 Steering Committee

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From Heartburn to Constipation:  
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### Heartburn and Chronic Constipation: The Asian Perspective



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Gastroesophageal reflux disease (GERD) and constipation are two of the more prevalent GI disorders encountered by physicians in Asia. Until 2003, GERD was thought to be uncommon in Asia but in the last decade, there has been an increase in the prevalence of GERD including both erosive and non-erosive reflux disease (NERD)<sup>2,3,4</sup>. Estimates of constipation prevalence range from 8.75% in the Asia Pacific region to 27% in Western countries<sup>5</sup>. Within Singapore, the prevalence of chronic constipation was estimated to be 7%, with females more commonly affected than males (11% vs. 3% respectively)<sup>6</sup>.

Heartburn and acid regurgitation are typical symptoms of GERD. Atypical GERD symptoms include epigastric pain, non-cardiac chest pain, sore throat, unexplained chronic cough and hoarseness of voice<sup>7</sup>. The accuracy of heartburn and acid regurgitation in the diagnosis of GERD is difficult to define, limited by the lack of a gold standard for the diagnosis of GERD. Furthermore, many languages do not have a direct translation for the word “heartburn.” Unique to Asia, the multi-cultural and multiracial population of patients do interpret “heartburn” differently. Whilst a test-and-treat approach with proton pump inhibitors (PPI) in patients with no alarm symptoms is recommended as a first line option in existing guidelines, it has its limitations. A response or lack of response to PPI does not always confirm or exclude a diagnosis of GERD. There is high false positive response due to placebo effect alone.

Up to 50% of patients with GERD will have normal endoscopies. Nevertheless, endoscopy is indicated in patients with complicated disease. The prevalence of Barrett’s oesophagus is generally low in Asian countries, ranging from 0.9%-2%<sup>8,9</sup>. Endoscopy is performed in patients in the region to exclude peptic ulcer or gastric cancer rather than to exclude Barrett’s oesophagus. Recently, more enhanced endoscopic imaging have allowed the Asian clinician to better evaluate patients through the use of narrow band imaging that allows enhanced visualisation of the oesophageal mucosal<sup>10</sup>. Reports from Asia have indicated the usefulness in evaluating NERD whilst reports from the West indicate the usefulness of this modality in Barrett’s oesophagus<sup>11</sup>.

Continuous pH monitoring with either the conventional ambulatory pH monitor or the wireless pH capsule<sup>12</sup> as well as the use of the combined 24 hour pH impedance system that evaluates both acid and non-acid reflux have further enhanced our understanding of the complex

pathogenesis underlying GERD symptomatology<sup>13</sup>. Whilst these novel tools have enhanced our diagnostic armamentarium, their use in routine clinical practice is limited by costs and availability.

In Asia, there is a controversy regarding the relationship between *Helicobacter pylori* infection and development of GERD. *Helicobacter pylori* eradication does not worsen GERD but on the other hand, there is convincing evidence showing the benefit of eradication of *helicobacter pylori* in curing peptic ulcer disease and reducing the risk of gastric cancer<sup>14</sup>. Hence testing and treating *H pylori* should be considered in region with high prevalence of peptic ulcer disease or gastric cancer.

Constipation is a polysymptomatic disorder<sup>15</sup>. Discrepancies in the population prevalence of constipation have been attributed to the lack of a uniform diagnostic criteria and the number of patients who seek medical care. Constipation is associated with significantly impaired quality of life and psychological distress<sup>16</sup>, as well as increased health care costs and impaired work productivity<sup>17</sup>. Being a polysymptomatic disorder, the presence of symptoms such as excessive straining, passage of hard stools and feeling of incomplete evacuation are equally or even more important than the actual frequency of bowel movements. This recognition of the heterogeneity of symptoms in chronic constipation represents a major challenge in the management of patients with this chronic condition.

Three overlapping subtypes of constipation have been defined, namely (i) slow transit constipation, (ii) normal transit constipation and (iii) dyssynergic defecation<sup>16</sup>. Slow and normal transit constipation can occur concurrently with dyssynergic defecation. Up to 50%<sup>18</sup> of patients with chronic constipation who were referred to a tertiary care centre for further evaluation were found to have dyssynergic defecation. However, there is a lack of data on the prevalence of dyssynergic defecation amongst Asians. Subtyping the various types of constipation helps the clinician to tailor treatment appropriately. In the absence of alarm symptoms or a family history of colon cancer, motility tests are not indicated unless patients have failed conservative treatment with increased dietary fibre and fluid intake and eliminating any secondary cause<sup>19</sup>. Investigative modalities targeted at evaluating patients with chronic constipation after exclusion of secondary causes include colonic transit markers, balloon expulsion test, colonic manometry and anorectal

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manometry. More sophisticated techniques include magnetic resonance defecography for real-time evaluation of structural abnormalities and the wireless colonic SMART<sup>®</sup> pill. The main aim of subtyping patients with chronic constipation stems from the evidence that it allows an algorithmic approach to the management of patients based on the underlying pathophysiology<sup>20</sup>. This is particularly relevant for patients with pelvic dyssynergia where biofeedback therapy has proven beneficial effects. However, these tests are not routinely performed outside of research centres. In addition, these tests lack sensitivity. Healthy asymptomatic subjects have been reported to have abnormalities suggestive of pelvic floor dyssynergia on anorectal manometry. In addition, normal values of MR defecography have not been well defined. Faced with the limitations of costs, availability and lack of standardized normal values, these tests are not routinely performed in Asia. More studies on the epidemiology of the various subtypes of chronic constipation in Asians are awaited.

Faced with the lack of routine availability of these diagnostic tools, patients with chronic constipation are often prescribed laxatives for symptom relief. Traditional laxatives such as bulking agents and osmotic laxatives are first line treatment readily available but are associated with high dissatisfaction rates<sup>21</sup>. More recently, the 5HT<sub>4</sub> receptor agonist Prucalopride (Resolur<sup>®</sup>) received regulatory approval by the Health Sciences Authority (HSA) in Singapore for use in male or female patients with chronic constipation who have failed conventional laxatives. In controlled trials in chronic constipation, Prucalopride has been shown to significantly improve the number of spontaneous bowel movements and the associated symptoms, whilst maintaining a favourable safety record. More studies are awaited with regards to the long term efficacy of this novel agent.

Similar to the West, heartburn and chronic constipation are highly prevalent conditions in Asia, with significant impact on quality of life and socio-economic costs. However, epidemiological studies within Asia have shown a higher prevalence of gastric cancer and a lower prevalence of Barrett's oesophagus compared to the West. Such subtle differences in epidemiology were addressed in the latest Asia-Pacific GERD consensus<sup>1</sup> and highlights the need for guidelines unique to Asia. In Asian societies such as Singapore, where surgical options for functional GI disorders are rarely considered, the availability of novel prokinetic agents such as Prucalopride for chronic constipation represents a significant advancement in our treatment armamentarium. As we evaluate this drug with cautious optimism, our past experience from Tegaserod serves as a constant reminder of the potential safety issues surrounding the serotonin agonists, although these fears have not been borne out by the favourable safety profile to date of Prucalopride.

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### Gastroesophageal Reflux Disease in Eastern Europe



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Gastroesophageal reflux disease (GERD) is common in Eastern Europe. The clinical presentation of this spectrum of related conditions is similar to other parts of the world, including the typical heartburn and the extra-digestive symptoms<sup>1,2</sup>. Connections to food, smoking and mood are also common with GERD presentation worldwide. A Romanian folk song even states that love may produce heartburn! Thus, reflecting the empirical connection between stress and reflux.

Epidemiological particularities exist however in this area. The largest epidemiological study was conducted on almost 8,000 Russian subjects sampled from the general population<sup>3</sup>. According to this study, the prevalence of GERD was 13%, while the prevalence of heartburn was 38.5%, one-third of the subjects presenting with regurgitation within the last 12 months. Alcohol consumption was declared by 60% and smoking by 25%<sup>3</sup>. Also in Russia, a study on young male subjects showed a prevalence of heartburn of 30%, increasing with age (up to half of subjects 40-60 years old) and higher than in females (25%), while esophagitis was rarely encountered, in less than 4%<sup>4</sup>.

The main feature of GERD in many Eastern European countries i.e. Romania, is the lower severity of the disease and also the lower prevalence of Barrett's esophagus. This particularity was attributed to the high prevalence of *H. pylori* infection, but there are no sound studies to confirm these largely empirical impressions. A paper from Jassy, in North-East Romania, reported the prevalence of *H. pylori* infection at 53% in GERD and 45% in controls (NS). Thus, it has been concluded that there is not sufficient evidence to define the relationship between *H. pylori* and GERD in North-Eastern Romania<sup>5</sup>. Similar data were published by Turkish pediatricians, reporting no significant negative association between the prevalence of *H. pylori* infection and that of erosive oesophagitis. Also the presence of *H. pylori* infection did not influence the severity of oesophagitis<sup>6</sup>.

Another epidemiological difference was reported from Turkey, where the prevalence of GERD in COPD and asthma was investigated. It has been shown that the prevalence of GERD (defined as heartburn/regurgitation once a week or more) was 25%, 17.0%, and 19.4% in bronchial asthma, COPD and controls, respectively. Heartburn started following pulmonary disease in 24% of asthma patients, and in 26% of COPD. Altogether, the prevalence of GERD in asthma and COPD are lower

than reports from tertiary centers. These differences might be related to the characteristics of developing countries, or increased consumption of powerful medications in GERD and pulmonary diseases<sup>7</sup>. GERD as a professional disease was also investigated by a Hungarian team, showing that professional opera choristers, professional wind players and glassblowers have a higher prevalence of reflux symptoms compared with control subjects<sup>8</sup>.

Related to profession, GERD was investigated also in the cleaners of the nuclear accident in Chernobyl. A very high prevalence of GERD symptoms was reported in this ultraspecialized category: 100%, while gastroduodenal lesions were detected in 88%<sup>9</sup>.

In Eastern European countries, the diet differs according to geographical situation and traditions. Smoking is frequent and alcohol consumption is common in males. These factors were also connected to reflux and should be addressed by health professionals in any preventive campaign.

The relationship between obesity and GERD is also present in these countries, even in areas where the population uses the Mediterranean diet, as shown in an Albanian study<sup>10</sup>.

Other concerns of the medical doctors address the quality of life and emotional disorders in GERD. Several studies reported impaired quality of life in GERD patients with severe symptoms<sup>11</sup> and the association with anxiety and depressive disorders<sup>12</sup>. Therapeutic options are similar in Eastern Europe to those in other parts of the world. However, a comparative study found that Hungarian doctors are more concerned with topics like alcohol use and spicy or fatty food than German doctors. Gastroenterologists adhere more strictly to the guidelines on the diagnosis and treatment of GERD than general practitioners<sup>13</sup>.

It is important to bear in mind that in many communities in our geographical area, the standard of life is poor, and there are data showing that patients worldwide in underdeveloped nations may have unrecognized and largely undertreated GERD<sup>14</sup>.

In conclusion, GERD is an important issue for Eastern European health providers and for their patients. Increasing awareness on this condition is very important and now it is time for action.

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# e-WGN

## WORLD GASTROENTEROLOGY NEWS

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Watch for future issues of WGO's quarterly newsletter, e-WGN, to read more about World Digestive Health Day and to see the events happening around the world to celebrate

**"From Heartburn to Constipation  
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### The Increasing Burden of Gastro-Intestinal Diseases in India: Impact and Interpretation



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Almost one third of the general population have some form of gastrointestinal problems varying from heartburn and abdominal discomfort, to constipation and diarrhea<sup>1,2</sup>. According to a household survey in the United States, 69% of those questioned reported having at least one of 20 functional gastrointestinal symptoms in the preceding three months (1). Furthermore, 10% to 40% of individuals complained of having abdominal cramps or pain of varying severity in a 2-stage community survey involving approximately 1,000 participants from 9 countries (Argentina, Belgium, Brazil, Germany, Italy, Japan, Mexico, UK, and the US)<sup>3</sup>. A majority of sufferers used medication (67% to 92%), most frequently over-the-counter drugs<sup>3</sup>. These gastrointestinal symptoms, including heartburn, bloating, abdominal pain/discomfort, constipation or diarrhea, can occur because of functional or organic diseases. Some of these patients having symptoms seek health care, some don't.

Although gastrointestinal symptoms are common in the general population, there are significant differences between countries in the nomenclature used to describe symptoms, as well as in the frequency, severity, sufferer impact, and sufferer response to these symptoms. India is a multi-linguistic and multi-cultural society with a population of over 1.2 billion. There are marked variations in the literacy rate, per capita income, dietary practices, living standards, and even climates. While almost 80% of Indians reside in rural areas, 20% reside in urbanised areas which are those most obviously influenced by modernization. A population of such a diverse nature is a major challenge to the epidemiologist. Furthermore, the prevalence rates for various diseases may also differ in different parts of the country. There had been a traditional belief that diseases such as GERD, dyspepsia, IBD, and celiac disease are less common in the Indian population compared with that in the more developed Asian and Western nations. A few multicentre studies have highlighted the burden of common GI diseases/symptoms in the Indian population in recent years<sup>4-8</sup>.

The Indian Society of Gastroenterology-led Task Forces have recently published that the pan-Indian prevalence of gastroesophageal reflux disease (GERD) is 7.6% and that of irritable bowel syndrome 4.2%<sup>4,5</sup>. Another community based study from the Northern part of India has confirmed the prevalence of IBS to be 4% in the general population<sup>7</sup>.

Looking at symptom prevalence rates in the general population, a study involving 4,767 participants from rural areas in the northern part of India found the prevalence of abdominal pain to be 17.3%, constipation 11%, and chronic diarrhea 11%<sup>7</sup>. If we translate these prevalence estimates into real numbers, it is expected that 100 million Indians suffer from GERD, 40 million from IBS, 130 million from constipation and 200 million from abdominal pain. Furthermore, even celiac disease, once thought to be uncommon in India, is now thought to affect 1% of Indians, at least in the Northern part of India<sup>8</sup>.

The current prevalence of IBS in Indians is lower than that in other parts of Asia and the Western world. There could be multiple reasons for a lower prevalence of IBS in Indians such as low health seeking behavior of the community and such dietary practices as a high dietary fibre and regular yogurt intake. Two of the WGO's 10 general dietary tips; use of probiotics/fermented food and a high fibre diet, for patients with lower GI symptoms, are, indeed, followed by most Indians.

All of these symptoms affect quality of life and productivity of the individual and thus it is important to recognize that these gastrointestinal symptoms affect overall productivity of the community. It is, therefore, appropriate for health care planners to understand the implications of these symptoms and allocate resources for their prevention and control.

For these diseases/symptoms, which are very prevalent in a community, involvement of patients by increasing understanding of their symptoms and self-motivating them appear to be important steps in management. The educational components of many disease management programs have been shown to have as much potential for a positive public health impact as drugs themselves<sup>9</sup>. It is all about empowering the sufferers by making them understand the basis for their symptoms and possible remedies using either patient information booklets, the internet, or through local health care workers. Such programs will inform and drive consumers to consult a health care professional including primary care physicians, family physicians, pharmacists, nurses, and medical social workers, and, when appropriate, shift to more comprehensive medical care after identifying a more serious condition.

Expanded access to appropriate medicines 'over the counter' for these common symptoms may strengthen the underlying framework of the health care pyramid, beginning with education and self-care. The

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onus lies on academia, industry, and regulatory bodies to develop and demonstrate the utility of safe and effective products, including educational materials and self-support programs for common gastrointestinal symptoms. While consumers are empowered by abovementioned measures to take care of their symptoms, they must be informed that these common and often benign symptoms may be the first presentation of a more ominous underlying inflammatory or malignant pathologies.

The ultimate goal is the enhancement of the health and wellness of the world's population.

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### Pharmacists – On the Front Line of GI Health



**Myriah Lesko**  
International Pharmaceutical Federation (FIP)

Pharmacists from every corner of the world have one shared goal: to better the health of those around them through the unique skills and knowledge that make them the medicine experts within healthcare circles. Dedicated to fostering the impact of pharmacists worldwide, the International Pharmaceutical Federation (FIP) brings together millions of pharmacists under one global umbrella. In this forum of knowledge exchange and growth, pharmacists are encouraged to use their accessible position within communities to make a positive impact within all areas of health, including those that affect gastrointestinal well-being.

The theme of this issue is especially relevant to pharmacists interacting with the public in community pharmacies. The title could not explain the pharmacist's position better, as community pharmacists spend a significant amount of time guiding both regular and casual visitors to the pharmacy on how to manage the entire gamut of gastrointestinal complaints - from top to bottom, so to say. This situation is a natural and obvious outcome of the fact that pharmacists are accessible at the points of choice and sale of medicines to treat common GI maladies, and are the only health professional armed with the pharmaceutical knowledge to properly advise in such circumstances.

In a recent Continuing Education Module for pharmacists, the American Pharmacists Association (APhA) recounts statistics that indicate "7% of American adults suffer from daily heartburn, 14% experience weekly heartburn, and 44% experience monthly heartburn...More than 4 million Americans (particularly women and adults aged 65 years and older) have frequent constipation" (APhA OTC Advisor, Self-Care for Gastrointestinal Disorders), in addition to the prevalence of diarrhea, dyspepsia and hemorrhoids. These statistics get alarming skewed in the direction of diarrheal diseases when evaluating many developing countries and areas where sanitation is subpar. All in all, these conditions comprise a striking segment of the population that at any given time is suffering from GI afflictions, most of whom, regardless of location and socio-economic level, have relatively easy access to a pharmacist.

#### **Non-prescription Treatments and Triage**

Community pharmacies are impressively stocked with hundreds of products to treat everything from heartburn, stomach acid, gas, constipation and hemorrhoids - the entire gamut, as previously mentioned. The "stomach" section rivals "cough and cold" for sheer

number and variety of products available. Ideally, patients seeking such products will speak to the pharmacist about their particular condition and gain valuable advice on the best course of action - which may or may not include pharmaceutical intervention. Despite being sown in an education of medicinal sciences, it is also a pharmacist's professional responsibility to advise on simple lifestyle changes that could positively affect a complaint – it's much more advisable to decrease coffee consumption than continuously down a cocktail of antacids and H2-blockers/PPIs, for example.

The same can be said for most moderate and acute GI complaints - the medicine is the bandage that accompanies the advice on how daily activities can impact GI health. It is the responsibility of the pharmacist to impart this knowledge on those seeking treatment. Many national associations of pharmacists that fall under FIP's Membership umbrella plan and implement campaigns that address GI health in communities. Some go so far as to test for colon cancer indicators with on-site pharmacy testing methods. Through these activities, pharmacists are literally opening the door to face-to-face interaction on good GI health based on lifestyle choices and, when necessary, supportive, short-term medications.

Along the same vein, it is also the responsibility of the pharmacist to triage patients and advise when it is necessary to seek the help of a physician. Pharmacists are trained to recognize chronic situations of all the most common GI complaints, in addition to acute occurrences (blood in stools or vomit, sharp intestinal pain, severe pain of any type) and in turn encourage patients to visit their physician. In this manner, pharmacists are also serving a significant public health role, whether it be advising more rigorous treatment of constant heartburn and stomach acid (in turn decreasing the chance of further, long-term damage) or identifying outbreaks of transmittable diseases and food-borne illness.

#### **Patients and Prescription Medicines - Supporting Adherence**

When considering GI conditions that are being treated by prescription medicines, pharmacists assume an increased responsibility in positive treatment outcomes. More severe gastrointestinal disorders such as Crohn's Disease and Irritable Bowel Syndrome, to the extreme cases of stomach cancer, require a team approach in which pharmacists are playing an increasingly present role. For less severe conditions that may

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often be remedied with one or only a few courses of treatment, the primary contribution pharmacists make is in supporting adherence to medicines regimes - ensuring as far as possible that patients take their medicines as they should.

The pharmacist's role in adherence, and the role of adherence in the long term success of medicine's use (extrapolating to the outset of healthcare economies) has been thus far largely underappreciated, and goes back to the pharmacist's position as one of - if not the - most accessible health professional in communities. What pharmacists do (or do not) tell their patients about the medicines they are, should be, or will be taking can be the difference between treatment success and failure, which in turn can affect both the burden of healthcare on national economics and societal growth. Unlike other members of the healthcare team, pharmacists are most often the last line of communication between medicines and patients – the way in which patients perceive medicines in relation to their health is and should be the responsibility of the pharmacist.

Although adherence is a concept not relegated solely to gastrointestinal medicines and treatments, it does have its place in the discussion when considering the number of associated medicines, such as NSAIDS, to name but one, can seriously affect GI functioning. The pharmacist's role in a holistic approach to all medicines use is invaluable in ensuring to the best extent treatment success with fewest side effects.

Pharmacists are growing ever-more keen to take their place in community health issues, reflecting their evolving profession to meet the changing needs and wishes of society. Both pharmacists and we here at FIP hope it is becoming increasingly apparent to both our partners in healthcare and communities in general, that pharmacists are in an ideal position to support patients in achieving good health - from top to bottom.



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### Chronic Constipation in the Elderly: Impact, Classification, Mechanisms, and Common Contributing Factors



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Constipation is one of the most common gastrointestinal disorders encountered in clinical practice. Most studies estimate the prevalence of constipation in the general population to be 12–19%<sup>1</sup>. The prevalence increases with age and is more frequent in females<sup>1</sup>. In studies of self-reported constipation, 26% of women and 16% of men 65 years or older considered themselves to be constipated; in the subgroup of persons 84 years or older, the prevalence was 34 and 26%, respectively<sup>2</sup>. Most persons consider it a nuisance, yet the reality is that constipation is associated with impaired quality of life<sup>3</sup>, significant individual healthcare costs, and a large economic burden. Nearly 85% of physician visits for constipation result in a prescription for laxatives and >\$820 million are spent per year on over-the-counter laxatives<sup>4</sup>.

**Impact:** Up to one-fifth of the general population suffers from chronic constipation during their lifetime<sup>1</sup>. The prevalence of constipation varies depending on the definition used, the age of the population studied, whether it is self-reported or diagnosed by a healthcare provider, as well as the setting in which the investigation is performed (community, outpatient, hospital, or long-term care facility). In studies of self-reported constipation, 26% of women and 16% of men 65 years or older considered themselves to be constipated; in the subgroup of persons 84 years or older, the prevalence was 34 and 26%, respectively<sup>5</sup>. In a community-based study the overall self-reported prevalence of constipation per 100 persons aged 65 years or older was 40; for functional constipation, it was 24.4, and for symptoms of outlet obstruction or delay, it was 20.5<sup>6</sup>.

If defined solely on the basis of number of bowel movements weekly, the prevalence of constipation decreases to <10% when using a definition of two or fewer stools per week. Notably, of persons who consider themselves to be constipated, <10% have fewer than two bowel movements weekly and nearly half actually have a bowel movement on a daily basis<sup>7</sup>. As might be concluded from this, difficulties with defecation that present often as hard stools and straining are quite prevalent in the elderly<sup>8</sup>. In a community-based study in the United States of persons older than 65 years that reported being constipated, persistent straining was reported by 65% and almost 40% reported passage of hard stools on a regular basis<sup>9</sup>.

Constipation and defecation problems are even more frequent among elderly residents of long-term care facilities<sup>10</sup>. A study from Finland revealed that 57% of women and 64% of men reported chronic constipation or rectal outlet delay; while the prevalence increased to 79 and 81%, respectively, in a nursing home setting. Also telling is the fact that 50–74% of long-term care residents use laxatives on a daily basis<sup>11</sup>.

The high rate of recurrence of constipation and/or rectal outlet problems in the elderly results in diminished health-related quality of life and high economic burden, and to complications such as fecal impaction, stercoral ulcers, volvulus, and visits to the hospital to correct these problems<sup>12</sup>. Healthcare workers caring for the elderly, especially when debilitated, need to be cognizant of the frequency of constipation and defecatory problems in this population, and be prepared to diagnose and offer remedy in a timely fashion to reduce morbidity.

**Classification:** Constipation is often divided into primary and secondary types for ease of approach to diagnosing the root source and causes of constipation, as well as to guide treatment. Primary types of chronic constipation can be classified as 1) Slow-transit constipation (AKA colonoparesis), characterized by prolonged stool transit through the colon and reduced rectal sensation, can be the result of primary dysfunction of the colonic smooth muscle, its innervation, or both. It may occur in the setting of a generalized intestinal motility disorder (intestinoparesis); 2) Defecation disorders, characterized by difficult or unsatisfactory expulsion of stool from the rectum, can result from dyssynergic defecation (impaired relaxation/coordination of abdominal and pelvic floor muscles during evacuation), impaired perineal descent, as well as anorectal or urogynecological structural abnormalities; and 3) Constipation-predominant irritable bowel syndrome, in which abdominal discomfort or pain relieved by defecation is the predominant symptom. In practice, there can be overlap of primary types of constipation in the individual patient.

There are numerous secondary causes and situations that increase the risk of constipation which have been outlined elsewhere (see article from which this work has been condensed, 1).

**Mechanisms:** The current thinking regarding mechanisms of constipation in the elderly is that changes in colonic motility and physiology that predispose patients to constipation are not primarily age-related,

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but rather a consequence of extrinsic factors closely associated with aging. Nonetheless, studies of colonic physiology in the elderly have documented intrinsic changes that can predispose this population to develop constipation<sup>13,14</sup>. These include: 1) Reduced neurons in the myenteric plexus and impaired response to direct stimulation; 2) Increased collagen deposition of the left colon, leading to abnormalities in colonic and rectal compliance and dysmotility; and 3) Reduction in the amplitude of inhibitory nerve input to the circular muscle layer of the colon, resulting in lack of segmental motor coordination. Changes in anorectal function have also been well documented in the elderly, and include 1) Diminished resting and maximal anal sphincter pressure, possibly secondary to decreased muscle mass and contractility, together with pudendal nerve damage associated with perineal descent in elderly women; 2) Decreased maximal squeeze pressure and loss of rectal wall elasticity; 3) Insufficient opening of the anorectal angle and an increased degree of perineal descent compared with younger females; and finally 4) Fibro-fatty degeneration and increased thickness of the internal anal sphincter with aging.

**Common contributing factors:** Many factors particular to the elderly population have been identified as contributing to constipation, such as increased use of anticholinergic agents, opioid analgesics, calcium supplements, calcium-channel blockers, and NSAIDs (non-steroidal anti-inflammatory drugs). Anticholinergic drugs reduce intestinal smooth-muscle contractility and have been associated with daily laxative use in nursing home residents and community-dwelling elderly persons. Constipation is a frequent side-effect from oral calcium supplementation that contributes to non-compliance in the elderly. Calcium-channel antagonists are associated with rectosigmoid dysmotility and can result in severe constipation, especially in patients taking nifedipine and verapamil. NSAIDs, probably through their effect on prostaglandin metabolism, also increase the risk of constipation in the elderly and can lead to poor compliance, even more frequently than symptoms of dyspepsia. Of note, NSAIDs have also been associated with an increased risk of stercoral ulcer perforation in elderly patients with chronic constipation.

Other relevant factors that can lead to constipation include poor fluid intake, diets low in fiber, and proportionally high in protein and fat, or are of small quantity. Impaired mobility, neurological or cognitive disorders such as Parkinson's disease, stroke, spinal cord disease, dementia, depression, along with nursing home residence and metabolic factors increase the risk of constipation.

The information provided in this article, and related references, are condensed from a published article<sup>1</sup>. The reader is kindly referred to the article for expanded references, assessment, and treatment.

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### What Differentiates Chronic Constipation (CC) from Constipation Type Irritable Bowel Syndrome (IBS-C) and Does it Matter for Dietary Recommendations?



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#### Chronic constipation is common in the general population

Constipation is the second most common gastrointestinal disease, occurring more often in women and at an advanced age. The broad range in the published prevalence data (2–28% of the population) reflects differences in how constipation is defined and, in particular, a lack of agreement between how patients and physicians perceive it. When patients refer to constipation, they are typically concerned about their problems with the act of defecation, even if the number of defecations is not reduced. In contrast, physicians are usually concerned about the reduction in stool frequency.

Constipation may be primary (functional or chronic idiopathic - CC) or secondary to other causes (medications, organic diseases – including colorectal cancer, diabetes, hypothyroidism, multiple sclerosis, Parkinsonism, pregnancy etc). Although the list of causes is long, functional constipation is more frequent in the general population.

Functional constipation or, simply, CC has no identifiable primary cause. Before accepting this diagnosis, an organic disease should be excluded in the presence of alarm symptoms / “red flags”.

Functional constipation has several subtypes: slow-transit (delay in passage of stool through the colon), normal-transit, and dys-synergic defecation (difficulty in expelling stools from the anorectum).

The Rome III criteria define CC as a chronic bowel disorder characterized by two or more of the following: straining; lumpy or hard stools; sensations of incomplete evacuation; sensations of anorectal obstruction or blockage; use of manual maneuvers to facilitate defecation (e.g., digital evacuation, support of the pelvic floor), all these occurring in  $\geq 25\%$  of defecations; and fewer than three bowel movements per week. In addition, loose stools should rarely occur without the use of laxatives, and there should be insufficient criteria for IBS. Chronicity is established by symptom onset within the previous 6 months and criteria fulfilled for at least 3 months.

In most subjects, CC is mild, intermittent, and responds to dietary changes and to over-the-counter (OTC) medication. However, in some patients it is troublesome or severe, altering their quality of life.

#### Constipation-type is the commonest subtype of irritable bowel syndrome (IBS)

Prevalence of IBS ranges between 4 and 30% in different populations. The Rome III criteria for IBS diagnosis are also symptom-based: recurrent abdominal pain or discomfort at least 3 days per month in the last 3 months associated with 2 or more of the following: improvement with defecation; onset associated with a change in frequency of stool; onset associated with a change in form (appearance) of stool. Symptom onset should have been within the previous 6 months and criteria should have been fulfilled for at least 3 months.

IBS is sub-typed according to the predominant bowel habit as: IBS-D (diarrhea is predominant), IBS-C (constipation is predominant), IBS-M (mixed, when diarrhea and constipation alternate), and IBS-U (unclassified).

Using the Rome III criteria, it is not always possible in practice to distinguish patients with CC from those with IBS-C. These diseases belong to the same spectrum of functional diseases, while occupying different positions along that spectrum.

The duration of constipation and the presence of a generally preserved health status are not helpful in distinguishing the two categories of patients. However, an earlier onset and a more persistent symptomatology in CC contrast with a greater tendency to fluctuating symptoms in IBS-C. The differentiating aspect is the presence of abdominal pain or abdominal discomfort in IBS-C patients. Excessive bloating is more common in these patients. Bloating and some discomfort also occur in about one third of CC patients, but usually at a lower level.

Assignment of patients to one or the other constipation types is essential for trials comparing different therapeutic methods. Although clinical distinction between IBS-C and CC is often arbitrary, clinicians should try to make this in practice for a better approach to their patients. But is this distinction important for the dietary management of constipation?

#### Dietary management of constipation is essential

The most important information the physician should get from his patient is about his diet (sufficient fibre? sufficient fluids?), medication (by prescription? OTC?), and levels of daily activity.

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The conservative measures such as recommending an increased intake of dietary fiber and water and more physical activity (which is beneficial by stimulating colon transit) are the cornerstones of treatment. Although they might not help all patients, their effectiveness has been proven in clinical studies and in some controlled trials.

### **Fibre intake**

The management of constipation commonly begins by increasing fiber intake. Soluble fibers are fermented in the proximal colon by bacteria to a greater extent than insoluble fiber. The resulting short-chain fatty acids and gas reduce colon transit time. Insoluble fibers undergo minimal change in the digestive tract and increase fecal mass by retaining water, leading to the shortening of colon transit time.

A daily intake of 25 g of fiber is considered effective. Increase in the intake should be progressive, over 2 to 3 weeks, for a better tolerance; a reasonable distribution of fibre over each of the daily meals is important. The daily intake of 25g fibres as dietary products is equivalent to eating 7 apples / day, or 12 bananas / day, or 8 carrots / day, or 1 cup of bran / a few cups of cereals per day etc. Some patients might not tolerate, others might not have access to, such a diet. These could use fiber laxatives – or bulking agents – as first-line agents. A recent systematic review showed that soluble fibres (methylcellulose, psyllium) are of benefit in chronic constipation, while data for insoluble fibre (bran) are still conflicting.

Natural or synthetic fiber products are available without a prescription.

The commonest adverse effects of fibre intake are bloating and flatulence, which could limit their use in C-IBS patients. Fibres are more effective in patients with slow-transit constipation than with dys-synergic defecation and are most effective in those with normal transit and may not be of additional value to patients already using laxatives.

### **Fluid intake**

In patients with constipation, large amounts (more than 2 liters) are recommended in order to increase the fibre volume in the intestine and promote defecation. Recommended are fluids such as still or tap water. Drinking of sugar-rich fluids should be reduced.

Increased fluid intake should be recommended with caution to patients with cardiovascular or renal diseases.

### **Prebiotics and probiotics in dietary products**

Probiotic bacterial preparations are generally composed of strains of *Bifidobacterium*, *Lactobacillus*, and their combinations, and some are available in dairy products. They help relieve constipation by reducing colon transit time.

Prebiotics are short-chain carbohydrates that are useful in patients with constipation due both to their osmotic properties and to their beneficial actions of bacteria for which they are a substrate. Some are ingredients of natural foods. They have mild laxative properties, and are recommended both in CC and in IBS-C patients. Even in moderate amounts they might increase gas production due to rapid fermentation in the proximal bowel, which limits their use in IBS patients with marked bloating or gas symptoms.

Although increasingly popular, evidence in well-controlled clinical studies on the efficacy of probiotics and prebiotics in relieving symptoms of constipation is still scarce.

### **Campaigns for a healthy life are useful**

Many of the general recommendations for a healthy diet and lifestyle are adequate to prevent or treat constipation. Active campaigns have been developed in our country by health care professionals over the last 15 years and promoted through media (radio and TV). Recommendations such as: “*For a healthy life, perform at least 30 minutes of physical activity per day*”, or “*For a healthy life, drink more than 2 liters fluids per day*”, or “*For a healthy life, eat fruits and vegetables every day*”, are repeatedly broadcast every week. People progressively become aware of a healthy diet, and this eventually will lead to a normal bowel transit.

Still, many patients, especially older persons, seek advice from pharmacists and physicians, and use laxatives OTC and naturist products on a rapidly growing market.

### **Conclusion**

The increased intake of fibre and fluids are the main recommendations in constipation. Pre- and probiotics are increasingly used. In some patients, these measures should be sufficient. There are no distinct recommendations for patients with functional constipation or with constipation-type IBS, but adverse effects of bloating and flatulence might reduce tolerance for fibre in the latter.



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## World Digestive Health Day Events Happening Around the Globe

### BANGLADESH

**Date: May 29, 2012**

An awareness event about gastrointestinal health was held.

### BELARUS

**Date: May 29-30, 2012**

A meeting to teach and inform about the field of gastroenterology, clinical applications and research took place.

### CHILE

**Date: May 29, 2012**

At the Hospital Clinico Universidad de Chile, a tent was installed in the front of the Hospital Clinico Universidad de Chile, and briefings were conducted for patients about most frequent gastrointestinal symptoms and their importance in diagnosis. Nutritional advice was given according to each symptom. Attendees were surveyed on the frequency of digestive symptoms. Topics included Dysphagia, Pirosis and Reflux, Epigastric abdominal pain, Bloating, Constipation, and Chronic diarrhea.

### FINLAND

**Date: May 29, 2012**

The 2<sup>nd</sup> Nurses Club held a seminar to promote digestive health awareness among nurses and other health care professionals.

### GUATEMALA

**Date: May 4 and 27, 2012**

On May 4 a Scientific Conference took place on the Approach to Chronic Diarrhea, and Celiac Disease with Professor Julio Bai, Argentina. On May 27 there was a Family Festival to make the public aware of gastrointestinal symptoms. Newspaper articles were also published in May.

### INDIA

**Date: May 29-June 3, 2012**

A CME event was held for postgraduate students, family physicians, internists and gastroenterologist. In addition, there was an awareness campaign for the general public.

**Date: May 29, 2012**

A GI Health Check-Up Camp was held at Lakeview Hospital, Belgaum, India, with free health check-ups for the local population, related to GI disorders. Investigations and surgeries were at the concessional rates.

**Date: May 29, 2012**

A patient awareness camp about acid peptic disease and constipation took place.

**Date: June 6, 2012**

An event in Mumbai will take place, regarding the following topics: Uncontrolled Vomits - Challenging Treatment, Persistent Hiccups - From Pillar to Post, Aphthous Ulcers - Sour in Daily Practice, Non Effective Diarrhea - Problem patient versus treating doctor, and Refractory Constipation - Laxation versus Relaxation, all followed by an open forum for issues and questions to the faculty.

### IRELAND

**Date: May 29, 2012**

A public forum on Common Gastrointestinal Problems; From Heartburn to Constipation to Irritable Bowel Syndrome, took place at the University College Cork. It was chaired by Professor Eamonn Quigley who gave an Irritable Bowel Syndrome Research Update, along with speakers: Dr. Anton Emmanuel who spoke about "Constipation; new ideas on a common problem" and Ms. Sarah Keogh discussed "Diet & Gut Health: Practical Advice".

### IRAN

**Date: May 17, 2012**

A half day seminar took place in the capital, Tehran, followed by a week of media activities and seminars in major cities, as well as distribution of brochures and posters all around the country to make the public aware of these symptoms, their importance, general management plans and referral strategies. Special talks were arranged for general practitioners as well.

### JORDAN

**Date: May 3, 2012**

Within the Congress, awareness lectures for public and general medicine doctors regarding common GI symptoms in the community took place in Amman. Also, TV, radio and newspaper interviews within the month of May regarding the topic were held.

### KAZAKHSTAN

**Date: May 30-31, 2012**

An event for the Republic Kazakhstan Ministry of Health, National Gastroenterologists Association in collaboration with WGO was held.

### LATVIA

**Date: May 25, 2012**

A conference was held for medical professionals, including mainly general practitioners.

# World Digestive Health Day

## WDHD May 29, 2012



From Heartburn to Constipation:  
Common GI Symptoms in the Community

### MALAYSIA

**Date: May 29-June 3, 2012**

2012 has been the fourth year World Digestive Health Day is celebrated in Malaysia. WDHD Malaysia was inaugurated in the year 2009. Each year, an official ceremony of WDHD Malaysia is held on May 29 in a high-traffic shopping mall, officiated by the Ministry of Health Malaysia. It aims to reach out to the public with the objective of creating awareness and educating the public and reducing the prevalence of digestive disease/disorders in Malaysia. The official ceremony was followed by a 5-day road show.

### MOROCCO

**Date: June 9, 2012**

A lecture titled *Du Reflux à la dyspepsie: quelle prise en charge en 2012?* will take place during the meeting of the AMWA (Amicale des Médecins de la Wilaya d'Agadir) organized for up to 300 physicians.

### PAKISTAN

**Date: May 31, 2012**

A one-day Symposia for Awareness and Teaching took place.

### QATAR

**Date: Throughout May, 2012**

An Epidemiologic Bulletin for the Cuban Hospital, Dukham, Qatar, will be created especially for WDHD. It will be disseminated to healthcare professional and facilities, including the Supreme Council of Health.

### ROMANIA

**Date: June 14-16, 2012**

The National Symposium of Gastroenterology took place during this time, and a Symposium on the common GI symptoms in the community was organized. Presentations at other gastroenterology meetings will be organized during the year as well.

**Date: May 29, 2012**

The philatelists and the post launched a special postmark. Other events included conferences for GI's and GP's, flyers and journal dissemination.

### SERBIA

**Date: May 15, 2012**

A symposium on the functional disorders of the digestive system took place, as well as a press conference on functional digestive diseases and digestive health in general.

### SPAIN

**Date: April 26, 2012**

A presentation to the media on constipation was held, along with video communications on healthy eating and digestive comfort.

### UKRAINE

**Date: May 24, 2012**

A Scientific Conference and healthy food exhibition under the support of the Health Ministry was held.

### UNITED ARAB EMIRATES

**Date: May 29, 2012**

The event was a CME event for General Practitioners.

### USA

**Date: Throughout 2012**

Multiple lectures took place, including "Approach to Constipation" and "Difficult Constipation and Pelvic Floor Dysfunction" geared toward medical specialists and nurses.

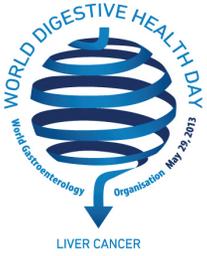
### USA

**Date: Throughout 2012**

Promotion of WDHD 2012 online and in e-newsletters to members and patients.

Visit <http://www.wgofoundation.org/wdhd-2012.html> to view more information on the 2012 WDHD Campaign.

World Digestive Health Day • WDHD May 29, 2013



**LIVER CANCER**  
Act Today.  
Save Your Life Tomorrow.



**Awareness. Prevention. Detection. Treatment.**

## WORLD DIGESTIVE HEALTH DAY 2013

Seeking To...

- Raise awareness of the growing health crisis of LIVER CANCER and HCC
- Reduce the number of individuals affected by LIVER CANCER and HCC
- Inform health care providers and the community at large of the prevalence, risk factors, and causes of LIVER CANCER and HCC
- Present an evidence-based and patient-centered approach to the prevention, detection and treatment of LIVER CANCER and HCC and the underlying causes

Help the World Gastroenterology Organisation support  
the worldwide fight to bring recognition through  
education and training of this disease today!



**World Gastroenterology Organisation (WGO)**  
**WGO Foundation (WGO-F)**

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