e-WGN

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In this issue

From The President of WGO

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WGO President

A great deal has happened since I became President of WGO during the Gastro-Antalya meeting in November of 2011. So far this year, the meetings of all our committees at DDW 2012 were a great success, WDHD 2012 has so far been met with worldwide enthusiasm, with events taking place in over 30 countries, and along with the Chinese Society of Gastroenterology we experienced a very successful Train the Trainers workshop in Xi'an, China. Looking ahead to 2013, the planning is well underway for Gastro 2013 APDW/WCOG Shanghai along with three Train the Trainers workshops, and activities are already being planned for WDHD 2013: "Liver Cancer: Act Today. Save Your Life Tomorrow. *Awareness. Prevention. Detection. Treatment.*" Needless to say, 2012 has been a successful and educational year, and 2013 will be a year of great opportunity and excitement for WGO.

Gastro 2013 APDW/WCOG Shanghai

Gastro 2013 APDW/WCOG Shanghai promises to be a momentous event, and it is difficult to believe this quadrennial meeting is just a year away! This next year's Congress will be the first to be held in China. Countless hours of work have already been contributed by all four global partners: the Asian Pacific Digestive Week Federation (APDWF), the Chinese Societies of Digestive Diseases (CSDD), the World Endoscopy Organization (WEO), and the World Gastroenterology Organisation (WGO). Gastro 2013's driving force is the unique partnership between these four organizing partners. The outcome of this partnership thus far is proving to be a globally relevant program for all participants.

I encourage you to read the additional article and updates from Gastro 2013 APDW/WCOG Shanghai within this issue of *e-WGN*. Also, take a few minutes to visit the Gastro 2013 website, www.gastro2013.org and social media sites Facebook and Twitter to stay up to date with relevant information as it becomes available over the next year. I look forward to next year's Congress activities in Shanghai from 21-24 September 2013.

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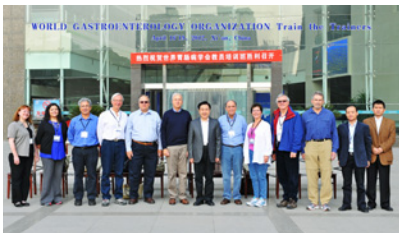
DDW 2012, San Diego, USA

The WGO's annual committee meetings took place last May on the beautiful San Diego Bay in picturesque southern California. With over 30 WGO-related meetings taking place in just a few days' time, we covered numerous topics and laid the groundwork for a large amount of work to be done in the remaining months of 2012 as well as in 2013. The encounter boasted an enormous amount of progress, including the inaugural

San Diego, California hosted DDW 2012.

meetings of both the Publications Committee and the Digestive Oncology Task Force. The WGO Foundation Board announced that the theme for WDHD 2014 will be Gut Flora, and Dr. Francisco Guarner (Spain) has just agreed to chair the Steering Committee. Please see Dr. Guarner's article on gut microbiota on p.5 of this issue of *e-WGN*. The Gastro 2013 Steering and Scientific Program Committees also accomplished a great deal of work leading up to next year's World Congress. The Nominations Committee participated in preliminary consideration of nominations for the 2013-2017 term, and there was much enthusiasm and interest in the input from National Member Societies as well as the Regional Affiliates as they put forth candidates. As you can see, this was an extremely productive meeting for WGO and I am very proud of what we accomplished in such a short time!



Faculty of the Xi'an Train the Trainers workshop.

Train The Trainers

One of WGO's foremost programs, Train the Trainers (TTT), continues to educate gastroenterologists around the world under the capable leadership of Professor Jim Toouli, whose interview with *e-WGN* contributor Justus Krabshuis is published in this issue. We are grateful to Professor Toouli for his leadership and expertise as the WGO's Educational and Training Initiatives continue to touch the lives of GI practitioners and patients the world over.

TTT Xi'an, China took place this past April, developing the teaching and training skills of 49 gastroenterologists representing 21 countries. The summary of this event – a first for WGO and China – is featured in this issue of *e-WGN*. We look forward to three TTT workshops occurring in 2013. In collaboration with the Portuguese Society of Digestive Endoscopy (SPED) and under the leadership of Dr. Guilherme Macedo, the first of two TTT workshops will take place in Porto, Portugal, 18-21 March, followed by the second, an advanced topic-focused workshop entitled Leadership and Management, which will be held from 23-24 March. Bogotá, Colombia will host 2013's third and final workshop from 24-27 April, 2013, in conjunction with the Colombian Association of Gastroenterology and under the presidency of Dr. Maria Teresa Galiano. This will be the second TTT to be presented entirely in Spanish. The WGO is thrilled to again present a workshop in another language and we look forward to expanding our programming to include future offerings in other languages.

WDHD 2012

World Digestive Health Day (WDHD) 2012, "From Heartburn to Constipation - Common GI Symptoms in the Community: Impact and Interpretation" has been a resounding success, with a record number of more than 100 events taking place in over 30 countries. In fact, WDHD 2012 was even featured in news stories on CNN! Of particular note is my home country of Uruguay, where over 1,000 people attended a 7-hour WDHD event at Capital City, Montevideo's main shopping mall. Conducted by the Uruguayan Society of Gastroenterology, "The Path to a Healthier Life" educational event was created to increase knowledge about Common Gastrointestinal Symptoms. A brochure detailing Ten Global Recommendations by WGO was distributed, and media coverage of the event included televised and radio-broadcast interviews as well as various newspaper articles. Additional information and a video are available on the Uruguayan Society's website, www.sgu.org.uy. Other countries that have hosted WDHD 2012 events include Argentina, Bangladesh, Belarus, Canada, Chile, Cuba, Finland, Guatemala, India, Iran, Ireland, Italy, Jordan, Kazakhstan, Latvia, Malaysia,

Pakistan commemorates WDHD2012.

Morocco, Myanmar, Pakistan, Qatar, Romania, Russia, Serbia, Spain, the United Arab Emirates, the United States, Ukraine, and Venezuela.

WDHD 2013

WDHD 2013's theme is "Liver Cancer: Act Today. Save Your Life Tomorrow. *Awareness. Prevention. Detection. Treatment*." Although Hepatitis B and C are completely preventable and treatable, they remain the most common causes of liver cancer. To increase awareness of this escalating health crisis, WDHD 2013 is dedicated to raising awareness and reducing the number of people affected by liver cancer. Under the leadership of Campaign Chairman Dr. Douglas LaBrecque, work is already being done for this important campaign, including the distribution of a survey on HCC, and plans for a presentation during a major symposium at Gastro 2013. We are very excited about the work that has been done and eagerly anticipate a successful and informative WDHD next May 29th and all throughout the 2013 campaign year!

Other work continues on Global Guidelines. The WGO has experienced a very exciting and especially active year in the area of Global Guidelines and Cascades, under the direction of our Chairman, Michael Fried, who has a wonderful team to work with. With the release of the Acute Diarrhea, Celiac Disease, newly created NAFLD-NASH, and the Obesity – now with 5 appendices – guidelines, we look forward to seeing each of those guidelines in our official Journal, the *Journal of Clinical Gastroenterology*. We are also anticipating the release of the new Hepatitis C guideline, which will further support the WDHD 2013 campaign.

As 2012 draws to a close, we should be incredibly proud of our progress. Thanks to the tireless work of the WGO membership societies and leadership and committee representatives, lives are changing for the better in all corners of the world. I can only imagine what is to come in the following years as we increase our global presence and continue to expand our programming, publish new guidelines, and spread the message of gastrointestinal health to people everywhere. Just under a year into my term as WGO President, I have witnessed a tremendous amount of teamwork and forward progress and am honored to be leading such a remarkable group. Our path may be filled with challenges but I am confident that our extraordinary team will continue to meet them with confidence, aplomb, and grace. We look forward to an action-packed year in 2013 and will reflect upon 2012 as a year of noteworthy progress and development.

To learn more about the events and initiatives mentioned in the President's editorial, please visit the sites listed below:

Gastro 2013 APDW/WCOG Shanghai

http://www.gastro2013.org/

Gastro 2013 APDW/WCOG Facebook Page

http://www.facebook.com/#!/pages/Gastro-2013-Shanghai/273684426065365

Gastro 2013 APDW WCOG Twitter Page

http://twitter.com/gastro_shanghai

Train the Trainers

http://www.worldgastroenterology.org/train-the-trainers.html

WDHD 2012

http://www.wgofoundation.org/wdhd-2012.html

WGO Global Guidelines and Cascades

http://www.worldgastroenterology.org/globalguidelines.html

The Human Gut Microbiota: a 2012 Perspective

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Gut microbiota science is making rapid progress

Until recent years, our knowledge on the human gut microbiota was largely limited to certain community members with potential pathogenicity by either translocation or production of toxins. Most of these potential pathogens were isolated in culture and recognized by traditional diagnostic techniques. However, culture-based techniques to identify bacteria have important limitations, and the large majority of bacteria in the human gut cannot be grown in culture media. Their potential role in health or disease has been ignored.

The concept of a host-microbe symbiotic relationship in the gut, in terms of proven benefits or mutualism among partners, was based on studies carried out with animals born and bred under germ-free conditions[1]. Compared with colonized counterparts, germ-free mammalians or birds exhibit major differences in body anatomy and physiology. These studies clearly indicated that microbial communities colonizing the animal host have a strong influence on body growth and development, as well as on the induction and regulation of the immune system, thus contributing to maintenance of health during life. However, very little is known about nature and biological characteristics of the critical symbionts inducing beneficial effects on the animal host.

The advent of high-throughput technologies has changed our perspective dramatically. First, these technologies are culture independent and, remarkably, they allow the characterization of microbial communities as a whole, enabling a deeper and global view of all the community members and their relative abundance[2]. The novel approach for the analysis of microbial communities in environmental samples is called "metagenomics", and is defined as the study of all the genetic material recovered directly from environmental samples bypassing the need to isolate and culture individual community members[3]. The metagenome is the collective genetic content of the combined genomes of the constituents of an ecological community. The microbiome is defined as the collective genome of the microbial symbionts in a host animal[4].

The most common approach consists of the extraction of DNA from the biological sample, followed by the amplification and sequencing of 16S ribosomal RNA genes in the sample. The 16S rRNA gene is present in all bacteria and contains both conserved and variable regions. Thus, similarities and differences in the sequence of nucleotides of the 16S rRNA gene allow taxonomic identification ranging from the domain and phylum level to the species level. Currently, around 2 million aligned and annotated 16S rRNA sequences are available in DNA databases (http://rdp.cme.msu.edu/). Taxonomic identification is based on comparison of 16S rRNA sequences in the sample with reference sequences in the database. In this way, studies on the 16S rRNA gene provide information about microbial composition and diversity of species in a given sample.

The most powerful molecular approach is not limited to 16S rRNA sequencing but addresses all the genetic material in the sample. The decreasing cost and increasing speed of DNA sequencing, coupled with the advances in computational analyses of large datasets, have made it feasible to analyze complex mixtures of entire genomes with reasonable coverage. The resulting information describes the collective genetic content of the community from which functional and metabolic networks can be inferred. Thus, the full metagenomic approach has the advantage of not only providing the phylogenetical characterization of the microbial community but also telling about biological functions present in the community.

The human gut microbiota

Estimates suggest that the colon, the largest ecological niche for microbial

Please see glossary on p.9 for defenition of terms.

communities in the human body, harbors over 10^{14} microbial cells, i.e. several hundred grams of microbes, most of them belonging to the domain Bacteria. Molecular studies based on 16S rRNA gene sequencing have highlighted that only 7 to 9 of the 55 known divisions or phyla of the domain Bacteria are detected in fecal or mucosal samples from the human gut[4-7]. Moreover, such studies also revealed that more than 90% of all the phylotypes belong to just two divisions: Bacteroidetes and Firmicutes (Figure 1). The other divisions that have been consistently found in samples from the human distal gut are Proteobacteria, Actinobacteria, Fusobacteria, and Verrucomicrobia. Of the 13 divisions of the domain Archea, only one or two species seem to be represented in the human distal gut microbiota. Thus, at the division level, the human intestinal ecosystem is less diverse than other ecosystems on earth, like soils and ocean waters which may contain 20 or more divisions[5]. However, at a lower taxonomic level (species or strain), there is a considerable variation in the composition of the fecal microbiota among human individuals. Strain diversity between individuals is highly remarkable so that studies have found that a large proportion of the identified strain-level phylotypes are unique to each person[5]. Each individual harbors his or her own distinctive pattern of bacterial composition.

In a cohort of 124 European adult subjects, a total of 3.3 million microbial genes were characterized by full metagenomic analysis of fecal samples[6]. This effort has provided the first gene catalogue of the human gut microbiome. Each individual carries an average of 600,000 non-redundant microbial genes in the gastrointestinal tract. This figure suggests that most of the 3.3 million genes in the catalogue are shared. It was found that around

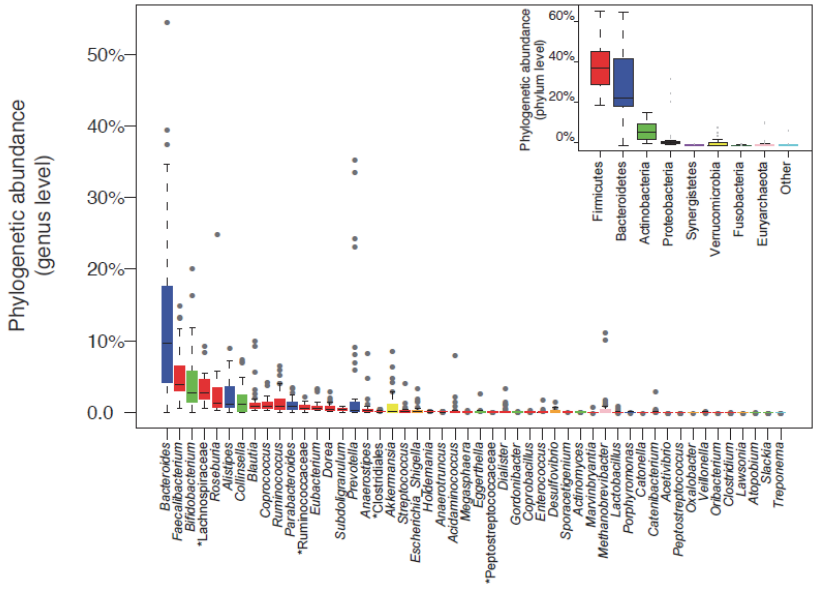

Figure 1:
Genus abundance variation box plot for the 30 most abundant genera of the human gut microbiota as determined by metagenomic sequencing of human fecal samples. Genera are colored by their respective phylum (see inset for color key). Inset shows phylum abundance box plot. Genus and phylum level abundances were measured using reference-genome-based-mapping (Source: from Figure 1b in: Arumugam M et al, Enterotypes of the human gut microbiome. Nature 2011; 473:174-180; with permission).

300,000 microbial genes are common in the sense that they are present in at least 50% of individuals. Up to 98% of genes in the catalogue are bacterial, and the entire cohort of individuals harbors between 1,000 and 1,150 prevalent bacterial species, with at least 160 species per individual[6]. Interestingly, *Bacteroides*, *Faecalibacterium* and *Bifidobacterium* are the most abundant genera but their relative proportion is highly variable across individuals (Figure 1).

Network analysis of species abundance across different individuals suggested that the overall structure of the human gut microbiota in each individual conforms to discrete and distinct patterns defined by interactions within community members[7]. This hypothesis was investigated using a dataset of metagenomic sequences from American, European and Japanese individuals. The phylogenetic analysis for taxonomic assignments was performed by mapping the metagenomic sequences to the reference genomes of fully sequenced bacteria. Multidimensional cluster analysis and principal component analysis revealed that all individual samples formed three robust clusters, which have been designated as 'enterotypes'[7]. Each of the three enterotypes is identifiable by the variation in the levels of one of three genera: *Bacteroides* (enterotype 1), *Prevotella* (enterotype 2) and *Ruminococcus* (enterotype 3). The basis for the enterotype clustering is unknown but appears independent of nationality, sex, age, or body mass index. The enterotype concept suggests that enteric microbiota variations across individuals are generally stratified, not continuous. This further indicates the existence of a limited number of well-balanced host-microbial symbiotic states.

Interestingly, it seems that the reported enterotype partitioning is related to long-term dietary patterns[8]. The *Bacteroides* enterotype was associ-

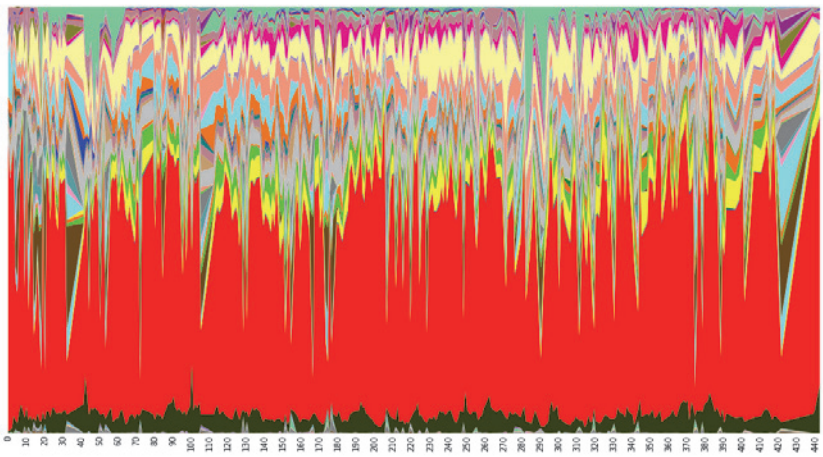

Figure 2:
Temporal variation in genus abundance in fecal samples from a single human individual, who was sampled daily for 15 months. Columns represent microbial composition of each sample at genus level, and colors indicate genera as follows: ***Bacteroides***, red; ***Faecalibacterium***, beige; ***Akkermansia***, pale green; ***Roseburia***, light blue; ***Parabacteroides***, yellow; other bacteroides, black; ***Bifidobacterium***, grey, etc. (Source: from Additional file 8 in: Caporaso JG, Lauber CL, Costello EK et al. (2011) ***Genome Biol*** 12(5):R50; with permission).

ated with diets enriched in protein and fat. In contrast, the *Prevotella* enterotype was linked to diets with predominance of carbohydrates and sugars.

Sequencing analysis has allowed describing not only differences in microbial communities between humans but also intra-individual variability (Figure 2). Factors such as diet, drug intake or travelling may have an impact on microbial composition over time in a unique host. A recent study[9] collected samples from three different body sites (gut, mouth and skin) of two healthy subjects on a daily basis for a period of 15 and 6 months, respectively. Community differentiation by body site is highly stable over time but, within the same body site, a low stability across time was noted. At species level, very few microbial members would constitute the so-called 'core human gut microbiota'[10], since only 5% species were always present in all samples from the same individual.

The concept of dysbiosis

An imbalance of the normal gut microbiota composition is called dysbiosis. A number of disease states have been associated with changes in the composition of the gut microbiota. Some recent data on the metabolic syndrome suggest that changes in gut microbiome composition may play a role in the disorder. Studies performed in mice reveals a shift in the abundance of Bacteroidetes and Firmicutes[11]. Also in animal models it seems that transplantation of gut microbiota from obese mice to non-obese, germ-free mice resulted in transfer of metabolic syndrome-associated features from the donor to the recipient[12]. The mechanisms advocated are the provision of additional energy by the conversion of dietary fibre to short-chain fatty acids, effects on gut-hormone production, and increased intestinal permeability causing elevated systemic levels of lipopolysaccharides. The contact with these antigens seems to contribute to low-grade inflammation, a characteristic trait of obesity and the metabolic syndrome. Presumably obesity affects the diversity of the gut microbiota and probably, the way individuals harvest energy from nutrients.

One of the major hypotheses underlying the pathogenesis of inflammatory bowel disease (IBD) is the presence of abnormal communication between gut microbial communities and the mucosal immune system[13]. Luminal bacteria appear to provide the stimulus for immune-inflammatory responses leading to mucosal injury. There is also some evidence showing that the microbiota of patients with IBD differs from that of healthy subjects. Differences include low biodiversity of dominant bacteria, high variability over time, and changes both in composition and spatial distribution (high concentrations of mucosa-adherent bacteria). The microbiota of Crohn's disease patients is characterized by a decrease in *Faecalibacterium prausnitzii*[14] as well as increased numbers of the Proteobacteria and Actinobacteria phyla[15]. Some other associations of human conditions with particular microbiota characteristics have been described such as irritable bowel syndrome, psoriasis, colorectal carcinoma, childhood-onset asthma and cardiovascular disease, but consistency among studies is still poor.

Therapeutical approaches to dysbiosis

Even if associations of dysbiosis with disease do not necessarily predict cause-effect relationships, there is growing interest to develop strategies that will improve the 'physiological' quality of the human gut microbial ecosystem for health benefits. As suggested by experts, the future of a healthy human gut microbiota may include the restoration of our ancestral microbial ecology. According Cho and Blaser[16] there are two possible types of restoration. The first involves restoring ancient organisms in healthy hosts that lack them, as prophylaxis

against future risk of disease. The second type of restoration could be therapeutic, when the etiological extinctions or imbalances are clearly identified. This scientific boundary will require an understanding of the biology of re-introductions, as well as developing microbial breeding programs[16].

Different interventional approaches have emerged, including the use of antibiotics, probiotics, prebiotics, combinations of probiotics and prebiotics, or techniques for microbial reconstitution by fecal transplantation. The referred approaches aim at improving host-microbes symbiosis in the gut by combating overgrowth of opportunistic community members or providing live microorganism or metabolic substrates in order to promote growth and activity of beneficial species.

Probiotics were defined as "live micro-organisms which, when administered in adequate amounts as part of food, confer a health benefit on the host" as proposed by the Joint FAO/WHO Expert Consultation in 2001. A Guideline for the use of probiotics and prebiotics in gastroenterology was recently updated by the World Gastroenterology Organisation[17].

The term prebiotic refers to "a selectively fermented ingredient that allows specific changes, both in the composition and/or activity in the gastrointestinal microbiota that confers benefits upon host well being and health". Concurrently, a prebiotic should not be hydrolyzed by human intestinal enzymes, it should be selectively fermented by beneficial bacteria, and this selective fermentation should result in beneficial effects on health or well-being of the host[18].

Finally, fecal transplant has emerged as an alternative approach to treat relapsing diarrhea by *Clostridium difficile* infection. This procedure has shown success in a subset of patients who failed standard treatment, with reported response rates up to 87%[19].

A total of 239 patients who had undergone fecal transplantation were reported. Seventeen of 22 studies of fecal transplantation were performed in patients with fulminant or refractory *Clostridium difficile* infection. The major concern about this approach is the potential risk of transmitting infectious diseases[19]. The potential application of fecal transplant therapies in other dysbiosis-related diseases needs to be confirmed through well designed randomized controlled trials.

Conclusions

The development of novel gene sequencing technologies as well as the availability of powerful bio-informatic analysis tools have allowed a dramatic proliferation of research work on the human gut microbiota. Large-scale studies are providing a deeper insight on the microbial communities that usually inhabit the human gut, and allow the identification of changes that are associated with disease states. A better knowledge of the contributions of microbial symbionts to host health will certainly help in the design of new potential interventions to improve symbiosis and combat disease. Moreover, such sequencing techniques provide novel insights into the field of infectious diseases by enabling the discovery of microbial pathogens, more accurate diagnostic tests, and disclosure of drug-resistance profiles[20].

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Two large-scale initiatives of major funding agencies have aimed at deciphering the structure and function of the human gut microbiota, namely the NIH's Human Microbiome project and the European MetaHIT project. Both programs will finalize their research tasks in 2012.

GLOSSARY

Dysbiosis: an imbalance of the normal gut microbiota composition.

Enterotype: a classification of the human gut microbial communities into three groups or types, on the basis of the bacteriological composition of the ecosystem (diversity and abundance of the predominant genera).

Metagenome: the total genetic content of the combined genomes of the constituents of an ecological community.

Metagenomics: the study of all the genetic material recovered directly from environmental samples bypassing the need to isolate and culture individual community members.

Microbiome: the collective genome of the microbial symbionts in a host animal**.**

Microbiota: the collection of microbial communities colonizing a particular ecological niche.

Phylotype: a microbial group defined by 16S rRNA sequence similarity rather than by phenotypic characteristics. A similarity of 97% indicates approximately a species-level.

Symbionts: the microbial partners in symbiosis.

Symbiosis: close and persistent interactions between living organisms of different species. Biological interactions may be mutualistic (both partners derive a benefit), commensalistic (one partner benefits without affecting the other), or parasitic (one benefits while the other is harmed). Most scientists believe that the term symbiosis should only refer to mutualistic relationships.

Part II: Global Burden Of Liver Disease: A True Burden on Health Sciences and Economies!!

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Click here to download Part 1 of this series!

The burden of viral hepatitis A, B, and C has been steadily increasing over the years and these were listed on almost 3.5 million ambulatory care visits and 475,000 hospital discharges in 2004 with a 4-fold increase in rates during the preceding 10 years.

Hepatitis C

HCV is a global health problem with almost 170 million carriers worldwide and approximately 3-4 million new cases a year. HCV along with alcohol has been the leading cause of liver related mortality in developed countries. Of 30,933 deaths considered to be from chronic liver disease in 1998 in the USA, approximately 15% were attributed to hepatitis C. The number of persons infected with HCV has been projected to increase considerably before reaching a peak by 2015. Of the 12,656 death certificates that listed viral hepatitis in 2004, 42.6% listed hepatitis C as the underlying cause, resulting in 101,800 years of potential life lost before age 75 years[1]. The epidemiology of hepatitis C in India has not been studied systematically and most of the prevalent studies have been based in blood banks. The reported prevalence from India varies from 0.09-7.89% and the genotype 3 is reported to constitute about 70% of all infected patients[4]. The awareness about severe steatosis, disease progression and carcinogenesis in genotype 3 are becoming a concern.

Hepatitis B

HBV infection is also a global health problem, which affects almost one-third of the world's population on the basis of serologic evidence of past or present HBV infection. Almost 360-400 million people have

Figure 1: Prevalence of chronic HCV infection from WHO International Travel and Health.[5]

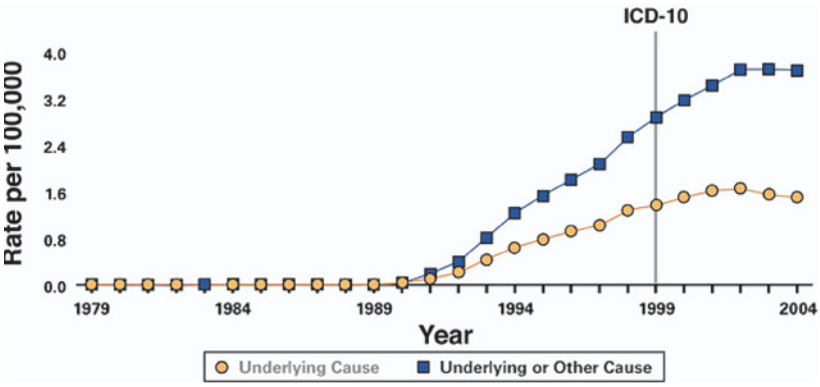

Figure 2: Hepatitis C: age-adjusted rates of death in the United States, 1979 –2004. (Source: Vital Statistics of the United States.)

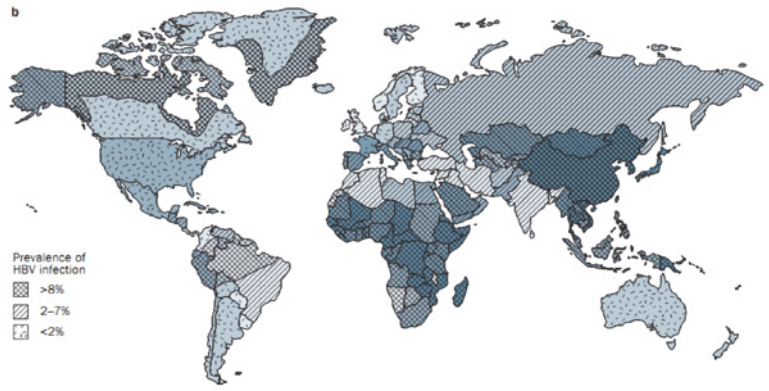

Figure 3: Prevalence of chronic HBV infection from US Centers for Disease Control and Prevention.[9]

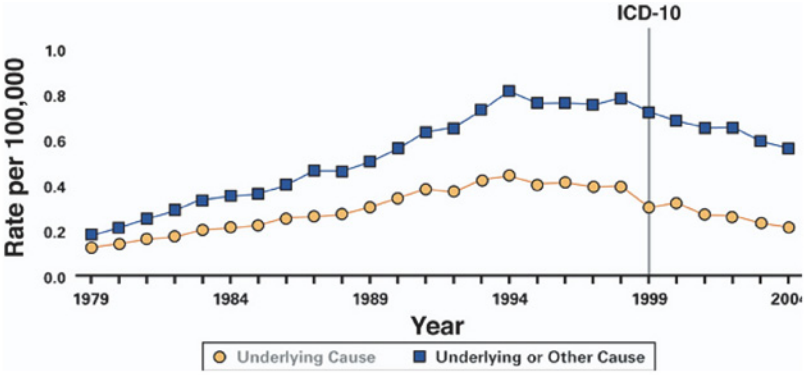

Figure 4: Hepatitis B: age-adjusted rates of death in the United States, 1979 –2004. (Source: Vital Statistics of the United States).

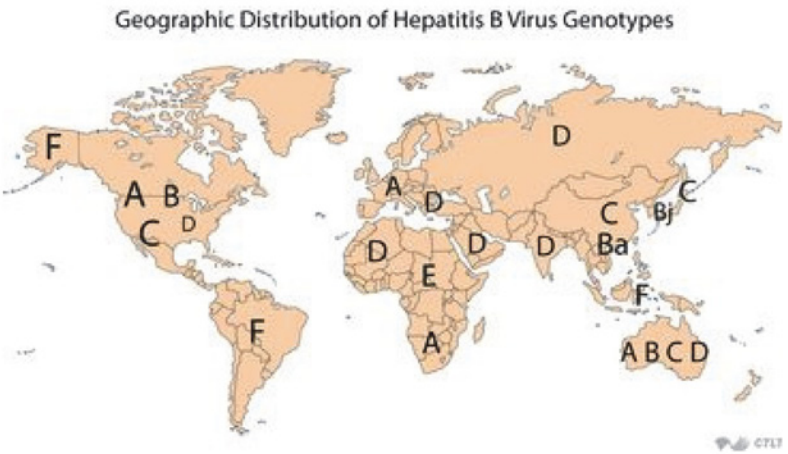

Figure 5: Geographic distribution of HBV Viral genotypes.[17]

chronic hepatitis B (CHB). Of these, 15%-40% develop cirrhosis, hepatic decompensation, and hepatocellular carcinoma during their lifetime, the main risk factor being acquisition of infection at birth or early childhood[6,7]. HBV-related end stage liver disease or HCC is responsible for over 0.5-1 million deaths per year and currently represents 5-10% of cases of liver transplantation. The total prevalence of CHB in the United States has been estimated as high as 2.2 million[8].

Recent years have seen an encouraging trend in decrease in the incidence of acute hepatitis B in the United States by as much as 80% between 1987 and 2004, which is attributable to effective vaccination programs as well as universal precautions in needle use, and exclusion of infected blood donors with an overall improvement in healthcare in general. However, unfortunately these decreases in acute infections have not translated into diminished prevalence or burden of chronic HBV infection[9]. It has also been reported that HBeAg negative chronic hepatitis B may have normal ALT but a significant fibrosis on liver biopsy and hence there is a possibility of missing a fair number of such patients and falsely labeling them as "inactive carrier"[10].

A total of 620,000 deaths were reported from HBV-related causes in 2000 of which 580,000 (94%) were from cirrhosis and HCC. The hepatitis B control goal is to reduce the prevalence of chronic hepatitis B virus (HBV) infection, as indicated by the seroprevalence of hepatitis B surface antigen (HBsAg), to less than 2% in children at least 5 years of age by 2012. In 1992, the WHO recommended that all countries include HBV vaccine in their routine infant immunization programs. However, in 2000, only 116 of 215 countries had such a policy. In September 2005, the WHO Western Pacific Region

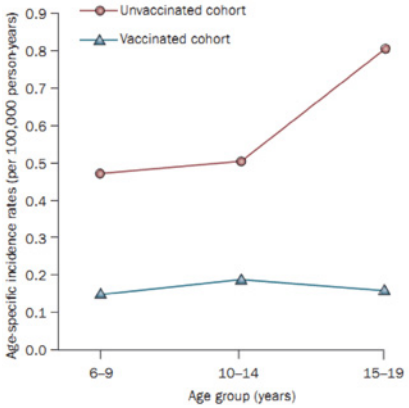

Figure 6: Change in the incidence rates of hepatocellular carcinoma between 1983 and 2004. This period spans the introduction of universal HBV vaccination in Taiwan (data from Chang et al. [2009]). 12 The unvaccinated birth cohort consists of children born in Taiwan between July 1979 and June 1984. The vaccinated birth cohort consists of children born in Taiwan after July 1984.

(WPR), with a population of 1.8 billion in 2007, became the first WHO region to adopt a regional goal of hepatitis B control[10]. The key strategy for achieving the goal is universal infant immunization with three doses of hepatitis B vaccine, with the first dose being given within 24 hours of birth.

Hepatitis A

Between 1979 and 1993, hospitalization rates with a diagnosis of hepatitis A have declined by about 75% from 6.5 to 1.7 per 100,000 population, and since then remained relatively stable through 2004. The reported mortality has also been extremely rare due to this infection seen in less than 100 cases a year. Also there is a sharp decline in incidence of the infection especially in children less than 15 years of age after introduction of the vaccine in 1995[1].

Hepatitis E

Outbreaks of this virus have been reported as unimodal outbreaks, which last a few weeks, to prolonged, multi-peaked epidemics which may last for over a year. These are frequently seen in the India subcontinent, China, Southeast and Central Asia, and the Middle East. The reported prevalence rates are higher in developing countries as compared to developed countries approximately 1-20%. Contrary to this, in India and other high-endemicity countries, age-specific seroprevalence rates of anti-HEV are much lower than those for HAV and infections, like Helicobacter pylori. In India HEV has been mainly reported in patients with chronic liver disease with recent decompensation and also associated with a poor outcome. Case-fatality rates of hepatitis E have been reported as 0.5%-4% in hospitalized cases and 0.07-0.6% from population surveys during disease outbreaks[13].

Economic burden of liver disease

According to Verispan database of 2004, almost 638,000 outpatient prescriptions amounting to £573 million were for viral hepatitis which included 5 important drugs i.e. the two pegylated interferons alpha2a and alpha2b (approximately 48.3% of the total cost) followed by ribavirin (40%), adefovir (7.5%), and lamivudine (4.2%). In another study in the US it was found that cirrhotics required an annual societal cost of approximately $4,700 which is almost twice as high as the cost per individual spent on informal caregiving of age-matched elderly without liver cirrhosis. This cost was estimated by multiplying the median hourly national wage for a home health aide ($9.85) x the weekly hours of informal care giving x 52 (weeks per year)[2, 16]. The total charges for hospitalizations secondary to hepatitis B have been estimated to have increased from $357 million in 1990 to $1.5 billion in 2003[15]. Also death and liver transplant waitlist registration which had been initially increasing have now reached a plateau or started to decline. Health care costs for alcohol account for $26.5 billion, of which $1.8 billion represents hospitalization costs[14]. The reported national expenditure accounted by obesity varies for 5% in the United States to 2-3 % in other countries.

Hence, the staggering high cost of the medications including the need for liver transplantation directly impact the patient and remain a huge challenge in managing patients with liver disease.

To determine the exact epidemiology of NASH still remains a burgeoning challenge. There is also a dearth of data and uncertainties about the precise burden as well as trends of ALD across the world even though it has been substantial and is increasing. HCC confers a substantial burden on the economy of developing countries where viral infections like HBV and HCV are prevalent and hence it requires a global collaboration to avert HCC by implementation of prevention of these infections to all individuals at risk. The reported incidence of HCC is also rising in developing countries due to rise in prevalence of

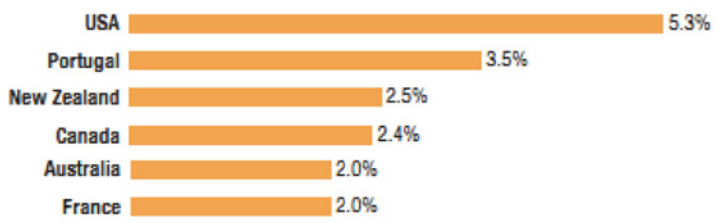

Figure 7: Proportion of national expenditure spent on obesity (adopted from Thomas. D Wolf AM 2001.

NASH and obesity. Considering the indolent nature of most liver diseases and the associated complications it requires, early identification and preventive measures to be taken at the earliest to prevent later development of cirrhosis and HCC.

Perspectives:

Globally, cardiovascular disease, diabetes and stroke have always stolen the limelight in chronic disease burden. The fact is that most of these conditions start with fatty liver and obesity. A concerted effort by gastroenterologists and hepatologists to develop an international network is needed to define strategies and modalities to ascertain the true burden of liver disease in specific regions, races and ages. Precise data would help develop preventive and treatment strategy guidelines for global agencies like WHO.

To view Part 1 of this series please download the July 2012 e-Alert at www.worldgastroenterology.org/wgn.html.

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In World Congress News, we bring you important updates from Gastro 2013 APDW/WCOG Shanghai!

A special invitation from the Gastro 2013 APDW/WCOG Shanghai Congress President and Chairman of the Local Organizing Committee, Professor Dai-ming Fan:

On behalf of the Gastro 2013 Local Organizing Committee, it is my distinct pleasure to invite you to Gastro 2013 APDW/WCOG Shanghai, on 21-24 September 2013.

The World Congress will take place in Shanghai, China, a first for the World Congress of Gastroenterology. This extraordinary city is a fusion of tradition and progressive thinking and it will be my privilege to share our city's culture and customs with you, future participants of Gastro 2013. It is my hope that you will join us and the thousands of other attendees as we gather in Shanghai next September. The Congress will be a remarkable professional experience and personally rewarding event. Attendees will have the opportunity to expand their professional knowledge and expertise in the field and collaborate with colleagues.

The city of Shanghai will be an ideal setting for Gastro 2013. I invite you and those who accompany you to tour our great city during your visit. As our guests, you will have a multitude of opportunities to experience the culture and history of Shanghai. I encourage you to begin your journey, by day or evening, at the Bund, a picturesque riverfront promenade, and expand your journey outward through the city. You will find that Shanghai has an eclectic mix of modern culture, such as the shops along Nanjing Road, and deep-rooted tradition found within the many venerated sites such as, the Temple of Jade Buddha, Yuyuan Garden, and the Longhua Temple. You will soon see that Shanghai is a city alive with excitement.

The Local Organizing Committee and I will be privileged to welcome you to the city of Shanghai and to Gastro 2013 APDW/WCOG Shanghai, *A WORLD CONGRESS IN ASIA!*

Best wishes,

Professor Dai-ming Fan
Congress President and Chairman of the Gastro 2013 Local Organizing Committee

A view of the Shanghai skyline.

World Digestive Health Day 2012 Events Around the Globe

With well over 100 events throughout almost 30 countries already taking place in celebration of WDHD 2012, the WGO is pleased to present the following reports, highlights and photos in this and future issues of *e-WGN*!

Chile

World Digestive Health Day: Celebration in Chile

This year 2012, WDHD was celebrated in Chile by the Chilean Society of Gastroenterology and the Clinical Hospital of the University of Chile with the support of – for the fifth consecutive year – Danone Chile S.A.

To commemorate this day, an educational tent was arranged and implemented during the 29th and 30th of May and was situated at the main entrance of the Clinical Hospital of the University of Chile, where the following occurred:

- Educational talks from doctors to patients about the gastrointestinal pathologies associated with this year's theme: "From Heartburn to Constipation – Common GI Symptoms in the Community: Impact and Interpretation."
- Presentation of a video about probiotics and their important role in digestive and general health.
- Delivery to the attendees of the educational materials published by WGO that allow the patients to understand more about their problem and to better dialogue with their doctor.
- Free medical consultations, with gastroenterologists and nutritionists for the attendees, who could consult and answer questions about illnesses and pains that affect them.
- A "Health Counter," where nutritionists taught the attendees how to eat properly to reduce digestive discomforts.

The celebration occurred with the support of gastroenterology doctors and nutritionists from this important clinical hospital and the special dedication of Dr. Ana María Madrid, gastroenterologist, and chief of the department of functional digestive illnesses of this establishment and spokeswoman for this celebration in Chile.

This activity in the clinical hospital was the platform for the Chilean launch of the "Love Your Tummy" campaign, an educational world campaign of the World Gastroenterology Organisation (WGO) sponsored by the Danone Group, which worldwide, aims to promote understanding, awareness, and management of gastrointestinal complaints, so frequent among Chileans.

For example, in only Santiago, Chile, 87.5% of women and 75.2% of men have problems with abdominal swelling, while women suffer also from heartburn, by 33% compared to 20.6% of men, when the reflux presents in 34.3% of the female population, versus 20% of the male population[1].

To further the reach of this campaign, a wide dissemination of the mass media was worked on, reaching dozens of publications in important print, online, radio and television, that called for everyone to take care of their digestive health and invited them to join the campaign, visit the educational tent, and follow the WGO's advice to take care of their digestive well-being. The work with the media enabled the achievement of significant live interviews for Dr. Madrid, who was not only the spokeswoman for the campaign, but who also took the opportunity to deliver educational messages to the public and thus fulfill the objective of the WGO, Chilean Society of Gastroenterology, Clinical Hospital of the University of Chile, and Danone, to contribute to a better digestive health for all Chileans.

Dra. Madrid delivers educational messages to the public.

Participants visit the event at the Clinical Hospital of the University of Chile.

Ireland

At a recent event entitled "What's your Gut Feeling? The latest insights on digestive health", hosted by Danone Ireland, experts gathered to discuss the gut brain axis and the latest developments in understanding the digestive system. Professor Eamonn Quigley, MD, World Digestive Health Day Co-Chair and Chairman of the WGO Foundation Board, spoke about the most common GI symptoms experienced by members of the community. Dietician Paula Mee presented the results of Danones' latest Digestive Health survey of over 1,000 people, which highlighted that the majority of Irish adults suffer from some digestive health issues and 39% of those surveyed suffer from digestive discomfort more than once a week. Also speaking at the event was Professor Ted Dinan, Principal Investigator in the Alimentary Pharmabiotic Centre at University College Cork.

Event speakers Professor Eamonn Quigley, Nutritionist Paula Mee, and Professor Ted Dinan.

Latvia

This year in Latvia a very interesting and successful WDHD event took place on 25 May. The program was divided in two parts: the first part was dedicated to their patients as well as anyone interested in the event, and included public lectures about healthy eating, every day activities, regime and exercises. Common gastrointestinal symptoms such as heartburn, indigestion/dyspepsia and constipation were explained. The second part of the WDHD event was a conference for healthcare professionals, mostly general practitioners. The conference topics focused on the common gastrointestinal symptoms such as heartburn, GERD, ulcer disease, H.pylori infections, atrophic gastritis and constipation.

A conference for healthcare professionals took place on 25 May in Latvia.

Romania

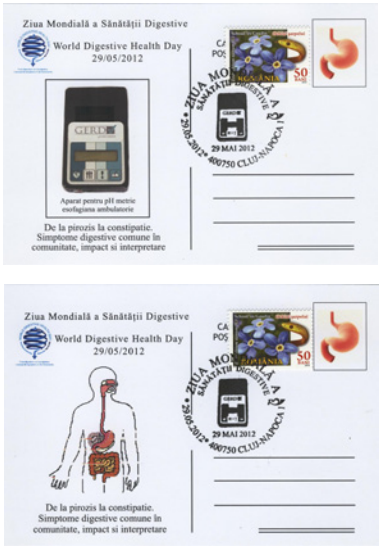
This year, WDHD was more intensively celebrated than ever in this country. Not only due to the endemic prevalence of the conditions representing this year's topic, but also due to the representation of two Romanians in the Steering Committee.

Many events took place including the Annual Meeting of the Romanian Societies of Gastroenterology in Targu-Mures, 14-16 June, where a presentation by Prof. Monica Acalovschi was done by Prof. Dan Dumitrascu, focusing on the necessity to increase the awareness of family doctors and patients on the functional gastrointestinal disorders and on heartburn.

A few days before, on 28 May, one day before the official WDHD, during the Regional Meeting of the General Practitioners from Romania, Profs Acalovschi and Dumitrascu lectured on IBS and anorectal disorders, respectively, on GERD. The tools and resources created in collaboration with Danone were translated and presented to the audience. On 31 May, in the city Zalau, during the yearly meeting organized by the county college of physicians, WDHD was mentioned and promoted in front of the attendees. During the 7th Central European Gastroenterology Meeting CEURGEM 2012 which started on 27 Sept in Cluj-Napoca, Romania, the significance of the day was reiterated during the opening ceremony.

Beside the publication of a paper distributed weekly nation-wide, *Viata Medicala*, the description of WDHD, of the initiative of WGO and of this years' topic, will be in the quarterly medical journal Maramuresul Medical, distributed in the northern part of the country.

The most spectacular event from Romania was the initiative to sponsor a special postmark dedicated to WDHD (see fig. 1 and 2). The Romanian Group of Medical Philately (including healthcare professionals and other people who collect any type of philatelic items on any aspect of medicine) asked from the post to use a special postmark commemorating WDHD. The postmark was used in Cluj-Napoca on 29 May, on two types of private postcards.



The special postcards and postage stamps created in celebration of WDHD 2012.

For a full list of events happening around the globe and in your country, visit http://www.wgofoundation.org/wdhd-2012-events-calendar. Are you holding a 2012 WDHD event? Don't forget to submit your event! Begin doing so by filling out the event form, here: http://www.wgofoundation.org/submit-wdhd-2012-event. Looking for information on WDHD 2013? Watch for the next issue of e-WGN in December, which will highlight the 2013 theme: **"LIVER CANCER. Act Today. Save Your Life Tomorrow.** ***Awareness. Detection. Prevention. Treatment."***

[1]Study of 2,744 (2197 women, 557 men) adult subjects, functional digestive studies were performed in the Laboratory of the Clinical Hospital of the university of Chile between 2008-2011.

VIII International Course on Advances in Gastroenterology and Digestive Endoscopy

Guido Villa-Gomez, MD

Director, La Paz WGO Training Center
Instituto de Gastroenterología Boliviano-Japonés
La Paz, Bolivia

Participants look on during an endoscopy demonstration.

Participants of the VII international course on Advances in gastroenterology and Digestive Endoscopy.

La Paz, 28 – 31 March 2012

The Bolivian-Japanese Institute of Gastroenterology (IGBJ) established the WGO Training Center with the mission to carry out yearly courses designed to complement and improve specialists training in Gastroenterology, as acquired in their home countries. The Course program is defined in conjunction by the WGO Education and Training Committee, the Bolivian Society of Gastroenterology (SBG) and the IGBJ, according to regional needs in training and an ethical approach to patient care.

The academic program of VIII Course included basic sciences relevant to Gastroenterology, as well as the latest concepts of gastrointestinal disease, with emphasis in endoscopic diagnosis and treatment of digestive diseases, given through formal lectures, interactive seminars and live demonstrations.

As in previous versions, the program was designed to comply strictly with the goals recommended by WGO:

- Promote mechanisms of interaction between international and regional specialists in the fields of gastroenterology, endoscopy and gastrointestinal surgery, incorporating a new generation of specialists, as the core of the program.
- Contribute to strengthening the concept of medicine with a social vision, in line with regional realities and needs.

The new generation of trainees was represented by 30 specialists who arrived to La Paz from countries of South and Central America, who along with specialists from Bolivia totaled 220 participants. Ram Chuttani, Prateek Sharma, Ricardo Morgenstern, Federico Villamil, Walton Albuquerque, Everson Artifon and Carmelo Blasco were our international guest lectures.

Dr. Villa-Gomez with a course participant.

The first two days of the academic program was developed in the IGBJ facilities. The third day, the course was conducted during a boat trip on Lake Titicaca (4000 meters above sea level). The world's highest altitude course was a novel and interesting experience that allowed us to better meet the objective of interaction between local and international specialists.

The fourth day, as in previous years, we worked in the Copacabana Community Hospital where all of us treated 197 patients with digestive diseases and also with health education programs for the community.

The degree of satisfaction of the trainees was evaluated at the end of the course through a survey that took into account organizational, academic and social impact; 87% rated as excellent and 13% as very good.

WGO Train the Trainers Workshop Xi'an, China 2012

James Toouli, MD, MBBS, PhD, FRACS

WGO Co-ordinator of Education and Training
Flinders University
Adelaide, Australia

Prof. Damon Bizos with his group during a morning breakout session.

Located in central China, and capital of the Shaanxi province, Xi'an is one of the Four Great Ancient Capitals in China, with more than 3,100 years of history. While Xi'an is one of the oldest cities, it is also one of the most populous metropolitan areas, being home to over 8 million inhabitants.

Xi'an was selected by the World Gastroenterology Organisation (WGO), in partnership with the Chinese Society of Gastroenterology (CSG), as the 18th Train the Trainers workshop location for 2012. The workshop was held from April 16-19, 2012 and was the first TTT workshop ever to be held in China for both WGO and the CSG.

The Train the Trainers workshop location was arranged by the CSG and held daily in the Xijing Hospital of Digestive Diseases (XHDD), which is home to both internal medicine and surgical departments and is one of China's leading clinical, research, and teaching facilities in gastroenterology. This hospital has nineteen floors comprised of outpatient, emergency, endoscopy, interventional therapy and clinical examination units, wards, operation rooms, ICUs, and laboratories, with over 30,000 endoscopic examinations and 3000 interventional treatments performed annually and an expected annual outpatient number exceeding 180,000 and inpatient number exceeding over 12,000.

Prior to the start of the TTT Quiz, which is held on the final day of the workshop and is an interactive team-building component that summarizes the week's lectures, participants had the opportunity to learn more about Xijing Hospital and its facilities through an informative tour led by Professor Kaichun Wu.

What makes Train the Trainers so unique is that it represents a diversity of cultures and regions transmitting not only knowledge but also camaraderie and support. TTT Xi'an was well represented by twenty-one countries, consisting of forty-nine gastroenterologists and eight faculty members. The course is distinguished by hands-on sessions built into the program to provide an opportunity for the exchange of ideas between peers in an environment which is conducive to learning and interaction. An essential component to the workshop criteria is that the delegates selected by their national societies possess high academic experience and are leaders in their field of gastroenterology. WGO's aim is that the knowledge learned and shared throughout the TTT workshop by participants is conveyed to their students and then implemented in their teaching in their own respective countries, with the active support of their national society.

On behalf of the WGO, our most sincere appreciation goes to the CSG

This photo was taken outside of the Xijing Hospital of Digestive Diseases during the WGO 2012 Train the Trainers Workshop.

Prof. David Bjorkman facilitating morning group discussion during a breakout session.

and to Professor Dai-ming Fan, Professor Kaichun Wu and their staff, who helped co-organize an exceptional course that has left lasting impressions. Also, I would like to thank the faculty for their commitment, enthusiasm, and contribution. Their leadership played an integral part in the resounding success of the workshop. Furthermore I wish to acknowledge the ongoing financial and academic support from our colleagues in the American College of Gastroenterology with whom an enduring relationship has been formed through our joint aims to foster education in Gastroenterology.

Highlighted below are a few testaments to the success of the workshop:

I learned a lot from this workshop, not only knowledge about how to try to be a trainer, but also the practical skills. The first thing I took from this course is the systemic knowledge of being a trainer and a professional GI trainer. I have been a teacher for more than 20 years in University hospital, but I've never been taught in such a "professional" way. This will change my way of teaching in the future and I will try my best to implement the methods and the skills as well as the "tips" to my hospital teaching. Thanks to all of the WGO TTT members and all of the colleagues in the group. I learned a lot from all of you! – TTT Participant

This was a very good workshop and I will change two things. The first is assessment of our GI fellows in training, and the second is to implement Pendleton's Rules. I have learned a lot about how to be a trainer in the four days I have been here compared to the years I was in my University Hospital. – TTT Participant

For more information on WGO's Train the Trainer Workshops, please visit: http://www.worldgastroenterology.org/train-the-trainers.html.

The WGO Education and Training Initiative

AN INTERVIEW WITH PROFESSOR JAMES TOOULI, CHAIR OF THE CORE EDUCATION & TRAINING COMMITTEE

James Toouli, MD, MBBS, PhD, FRACS

WGO Co-ordinator of Education and Training
Flinders University
Adelaide, Australia

Justus Krabshuis

Highland Data
Tourtoirac, France

Q1: Professor Toouli – you are the intellectual engine behind starting and developing the WGO Education and Training Initiatives. These have been an overwhelming success with our member societies and their members. Your initiatives embody the core WGO global mission and without doubt the Training and Education initiatives represent WGO's crown jewels. Can you briefly describe these two initiatives?

A: Firstly I wish to acknowledge the enormous support and advice I have had from many colleagues, including many of the current Executive of WGO for any success that can be attributed to the educational activities of WGO. As an organization we made a decision some years back that education of the profession and the public in our areas of expertise, i.e. Gastroenterology and GI Surgery, would form the focus of our activities. I have been fortunate to have coordinated many of these activities and delighted with the way that they have been accepted by our colleagues in Gastroenterology.

Training Centers (TCs) form the core of our educational activities: these centers have been developed in GI centers of excellence in developing countries which have been able to provide local experts who have been able to lead these initiatives. The centers train gastroenterologists from less developed parts of their country as well as from surrounding countries.

WGO has established 14 Training Centers worldwide.

The training is provided by in-house specialists as well as invited faculty or volunteer faculty who attend the center for significant periods of time. The trainees receive instruction to either gain full training in the specialty of Gastroenterology or GI Surgery or up skill in areas of perceived need. Currently we have 14 of these centers in all continents and we have trained hundreds of very grateful colleagues who have returned to their countries to deliver much needed services. This activity is partly funded from WGO funds (acquired following successful congresses), donations, and most importantly though partnerships with governments, some National Societies and the biomedical industry. Our Foundation has as one of its main tasks, acquisition of funds to further support and expand the activities of the centers. In addition I would like to invite all of our member National Societies to join us in supporting the activities of these centers as three of our member National Societies already have done to date. Contributions "in kind" by facilitating the involvement of volunteers from their society are gratefully accepted. The activities of the various training centers are reviewed annually through a rigorous accreditation process which all the centers fulfill as part of their own ongoing development. In recent years through the generosity of the American College of Gastroenterology (ACG) we have introduced access for some of the centers to the ACG Education Universe Program which has provided a core curriculum for the training in gastroenterology. Furthermore through equally generous support from Fukuoka University and the Japanese government we have ac-

cess to the academic internet network which allows for an increasingly large number of internet based educational events linking our various centers.

I do believe that future objective evaluation of the results from the activities of the centers will show that WGO is having a significant impact in the training of gastroenterology in areas of the world where this is needed.

Train the Trainers (TTT) is the second of our major and ongoing educational efforts. This program has now been running for over 10 years. It is aimed at the educators in Gastroenterology, Hepatology, Endoscopy, and GI Surgery. It is a four day workshop which is run annually. It is limited to 50 participants who are nominated by their National GI Society so as to ensure that we do indeed reach out to the educators.

The basis and success of the workshop is that it is designed to be interactive. Underpinning the discussion are a number of modules which are introduced via lectures, which then lead to related discussion groups and concluded by presentation on the topics from the participants. Thus we all learn from each other, hence no one TTT workshop is the same as the last, and as the years have passed we have often changed the modules as well as the content within the modules. These changes have been made as a result of feedback and also as knowledge has advanced.

Two WGO Train the Trainers workshops will take place in Porto, Portugal in 2013.

Educational modules which comprise the workshop include: Concepts of Adult Education, Techniques for Group Discussion, Teaching Procedural Skills, EBM and Trial Design, Critical Appraisal of the Literature, How to Prepare a Paper for Publication, Hints on Preparation of an Abstract, Assessment and Appraisal, Credentialing and Professionalism, which incorporates aspects on leadership and management skills.

Some of these modules have expanded into longer workshops which have been conducted on separate occasions. These include a workshop on Trial Design which has been run twice and a new workshop on Leadership and Management which we will run next year in Porto, Portugal. We have also had expression of interest in running a longer Procedural Skills workshop and one on Assessment and Appraisal.

The participants and faculty who have taken part in these workshops have formed professional bonds which have been a very important side benefit of this activity. Alumni functions have been held at each of the last World Congresses and we hope to hold another in Shanghai.

Q2: But it has not all been plain sailing has it? What were the major changes since you started and what, today, do you consider the key achievements?

A: This type of volunteer work is never without problems. I have been blessed by working with some very generous people who have volunteered their time and skills for the benefit of our profession and the patients that we hope to help. However finances and financial constraints are always a problem. The need is enormous. There is this incredible volunteer spirit of my medical colleagues and it is with this in mind that I again invite our member National Societies to consider partnering with us in some of these projects. In particular at the Training Centers – to be the go between and to reach out to their members for volunteers to help us in these educational activities.

The key achievements are self evident in the smiles and gratitude expressed from those colleagues who have either attended courses at the training centers or have participated in a TTT workshop.

Q3: These WGO schools and TTTs have a strong focus on topics such as Assessment and Appraisal, Teaching Procedural Skills and Credentialing and of course on Evidence-Based Medicine. What do attendees like best? Why?

A: The participants who attend TTT are now well aware that we do not teach gastroenterology but introduce them to educational techniques of how to teach gastroenterology. And yet they are amazed and wide-eyed when they are actually exposed to the modules offered. As a teacher and coordinator of the event this is always very encouraging and pleasing.

As a witness to our success I am pleased to say that many of our Alumni have reproduced either full versions or parts of TTTs back in their countries once they have returned. For me there is no greater compliment than to say "I got so much out of the workshop that I wanted to share what I learned with my colleagues". By the way, we provide all of the material to all participants so that if they wish they can share and reproduce it.

I am not sure that I can say one module is more popular than others. I do believe that the current mix works well and whilst not every participant rates all modules equally high, the responses we obtain suggest that more than 90% of the attendees would rate most of the modules as very good to excellent in meeting their needs.

With regards to the Training Centers, a number of our alumni from these are now eminent gastroenterologists in their country, including heads of departments. It is again of enormous pleasure when at a meeting e.g. the WCOG, when one of our past trainees approaches me to say where they are at with their career and how the training received in one of the training centers had contributed to their advancement in the profession.

Q4: In the TTTs, Trial Design and Critical Appraisal, Publication and Presentations are added as skill related modules that may or may not be taken up dependent on people's background. Can you say a little more about this? Who wants what?

A: By and large, 100% of the people who attend Train the Trainers view these modules as the ones that they would be most interested in. We run a pre-workshop questionnaire which interrogates the participants of their interest in attending the workshop and these are the ones that usually head the list.

What is also fascinating is that prior to attending the workshop, the modules on Credentialing and Professionalism do not often rank highly. However on the post-workshop evaluation these modules reach the level of appreciation equal to the others. I expect that it may be due to a lack of perceived relevance of the topics of Credentialing and Professionalism until the participants become exposed to them.

Most of the colleagues who attend TTTs are interested in Trial Design, reading journal articles critically and publishing as well as presenting at meetings. Thus it is no surprise that they are attracted to these modules and rank them highly after the workshop.

Q5: Do you foresee any changes in content or emphasis for your next three TTTs in 2013?

Bogotá, Colombia, which will host a 2013 Train the Trainers workshop conducted entirely in Spanish.

A: There will be three workshops in 2013, a regular TTT in Colombia and two running back-to-back in Porto, Portugal. In Porto we will have an English language regular 4-day workshop which will have some changes but substantially be very similar to the successful one we ran earlier this year in Xi'an, China. One very important change however shall be in the overall coordination of this workshop in that I have passed on the "baton" to my colleague Damon Bizos, from South Africa who will take over from me as TTT Coordinator.

The second workshop in Porto, which will follow on the regular TTT, will be one that I shall coordinate as my "swan song" and this will be a new two-day workshop on Leadership and Management. It promises to be a fascinating workshop as we hope to incorporate in our faculty high profile leaders from the political, business and sporting world, just to see how they do it and what relevance this may have to us as clinician leaders.

In Colombia, we will be running our second Spanish language 4-day TTT in Bogotá. The first Spanish language TTT was run in Porto Alegre, Brazil (Yes, Brazil, where the spoken language is Portuguese!!) last year. It was highly successful and thus leading to the second next year.

I anticipate that in future, as opportunities arise, we will run TTT workshops in other common languages. Two come to mind: French and Mandarin Chinese. I am very thrilled by the opportunity to run this program in other common languages for two reasons. Firstly, it illustrates our commitment to world gastroenterology; and secondly it permits us to communicate complex issues and ideas as in professionalism, to name one area, in the languages used by our colleagues from the non-English speaking countries. Believe me, the release from the restrictions of language make these workshops very invigorating. For just a moment I would like to sing the praise of WGO; I wish to point out that we are the only organization that I know which runs programs in languages other than English, in not only this area but of course in the very successful Global Guidelines as well.

Q6: Do you foresee any changes in content or emphasis for the WGO schools in the near future?

A: The future is looking very bright for our training centers. The generous donation from the American College of Gastroenterology (ACG) of the Education Universe Program is a very exciting and significant event. It is my vision that through this electronic medium we may be able to develop a GI curriculum for the world. Our colleagues in the ACG responsible for its development share this vision, and we hope that together and through the teachers and trainees at the training centers we can achieve this outcome. Wouldn't it be wonderful if we had an international curriculum recognized for its quality that may serve as the basis for allowing professional recognition of qualifications throughout the world?

An expansion of our internet based educational activities using the academic network is another project which I would hope shall expand through our centers. All of the centers run educational events. My vision is that we may develop a program, such as a television program which will

document the activities occurring at each center every week. With the aid of this program any one center might then link-in to the others (time difference permitting) and hence be able to share the educational activities between the different centers.

Q7: After people have attended a TTT or WGO School – suppose one of the attendees goes home and starts the long and arduous process of designing and building an RCT or even a systematic review, or help is needed with writing proposals and writing or translating abstracts or even organizing an evidence base - what help can WGO provide with such projects?

A: Our WGO Research Methodology group has been very productive in trying to help people who desire this help. They have produced extensive documents which are accessible via the WGO website on research methodology. These guidelines are aimed to help anyone who needs assistance in the conduct of clinical research. In addition to the documents, the Chair of the Research Methodology Committee has offered to assist anyone in trouble either by connecting them with an appropriate person from the WGO community or directing them to further internet based guidelines. I am very grateful to the Chair and the Research Methodology Committee for this generous offer. However as you very well know, to do meaningful research one needs to be taught in a similar way as one is taught to be a good gastroenterologist. Thus, for a person who wants to devote themselves to a career which may include research, then relevant training is very important. Some of this training can be provided at some of our specialist training centers. Our Secretariat would be very pleased to direct any queries to the relevant center.

TTT participants take part in a team-building exercise in Xi'an.

With regards to accessing published information, the WGO "Ask a librarian" service is a fantastic facility which I believe is unique to our organization. Again I am very grateful to you for having the foresight to develop such an innovative program.

Q8: And a final more personal question if you allow me - you are based at Flinders University in Adelaide, Australia – do you see gastroenterology in Asia Pacific taking center stage in the next decade? I am asking for a 'GUT feeling' – from the gastroenterology 'heartland.'

A: I am very optimistic about what is happening in gastroenterology in Asia as well as in our local Australia and New Zealand region.

Earlier this year we held a TTT in Xi'an, China. Xi'an was the first capital of a unified China and the home of the Terracotta warriors. Most importantly for gastroenterology it is also the home base of our host (Professor Fan) for the next WCOG in Shanghai. Those of us who participated at this workshop were very impressed by the enthusiasm of the up and coming Chinese Gastroenterologists, their enquiring minds and their wish to succeed. Furthermore it was impressive to see the support which was provided by their superiors which augurs well for the future of the specialty.

The advances in gastroenterology seen in other Asian countries also mirrors this enthusiasm and will to succeed and contribute. Whether it be Japan, South Korea, India or Hong Kong, to name a few, gastroenterology is progressing in leaps and bounds as evidenced by the enormous volume of research publications coming from the region. As Asian countries emerge as the economic powerhouses of the world, I am convinced that similar advances will be seen in the academic GI world.

Australia and New Zealand are geographically fortunate to be in this vibrant region and through our Asia Pacific associations and personal connections are an integral part and contributor to this activity in gastroenterology as in other areas of medicine and society.

Locally, our annual Australian Gastroenterology Week remains a very vibrant, attractive and successful meeting. The Gastroenterology Society of Australia (GESA) is central to the training of gastroenterologists and is a very important catalyst for GI research. It has very successfully continued to maintain all of the subspecialties of gastroenterology under the one umbrella organization to the obvious benefit of all. It is a model that others around the world might wish to copy as unity and collaboration leads to extraordinary efficiencies and strength but also great collaborations which in the end not only benefit us as individuals but also serves the needs of the profession and the patients we treat.

Concluding Note

Thank you very much Professor Toouli for talking to *e-WGN* – we are most grateful to you for sharing your views and vision with our readers.

A. Thank you for allowing me to highlight what are some very unique activities in the world of gastroenterology. Activities which reflect the ethos of this organization we call WGO. You may conclude that I am very biased, and of course I am, but I also feel very fortunate to be able to serve in such a unique and extraordinary organization.

WGO Calendar of Events

Boston International Live Endoscopy
When: October 3-5, 2012
Location: Joseph B. Martin Conference Center at Harvard Medical School
Address: Blackfan Circle, Boston, MA, United States of America
Organizer: Beth Israel Medical Center, Harvard Medical School
Website: www.bilec.com

The 6th Meeting of the Society of Gastroenterological Intervention (SGI 2012)
When: October 5-6, 2012
Location: Sheraton Grande Walkerhill
Address: 177 Walkerhill-ro, Gwangjin-gu Seoul, South Korea
Organizer: The Society of Gastrointestinal Intervention (SGI)
Website: http://www.sgiw.org

13th World Congress of the International Society for Disease of the Esophagus
When: October 15-17, 2012
Location: Venice Lid, Italy
E-mail: isde2012@keycongress.com
Website: http://www.isde2012.org/

AGW 2012
When: October 16-19, 2012
Location: Adelaide Convention Center
Address: North Terrace, Adelaide, Australia
Organizer: Gastroenterological Society of Australia
Email: gesa@gesa.org.au
Website: http://www.agw.org.au

UEGW Amsterdam 2012
When: October 20 - 24, 2012
Location: Amsterdam RAI Convention Centre
Address: Europaplein, NL 1078 GZ Amsterdam, The Netherlands
E-mail: office@uegf.org
Website: http://uegw12.uegf.org/

American College of Gastroenterology Annual Scientific Meeting
When: October 19 - 24, 2012
Location: The Venetian, Las Vegas, Nevada, USA
Address: 3355 Las Vegas Boulevard South, USA
Website: http://www.acgmeetings.org

75th Annual University of Minnesota Colon and Rectal Surgery: Current Principles & Practice
When: October 24-27, 2012
Location: Hyatt Regency
Address: 1300 Nicollet Mall, Minneapolis, MN, USA
E-mail: info@colonrectalcourse.com
Website: http://www.colonrectalcourse.org

13th World Congress of the International Society for Diseases of the Esophagues
When: October 15-17, 2012
Location: Venice Lid, Italy
E-mail: isde2012@keycongress.com
Website: http://www.isde2012.org/

Second Global Symposium on Health Systems Research
When: October 31-November 2, 2012
Location: Beijing, China
E-mail: hrsymposium2012@who.int
Website: http://www.hsr-symposium.org

The 3rd Asian-Pacific Pan Topic Conference
When: November 3, 2012
Location: Shiba Park Hotel
Address: 1-5-10 Shiba Park, Minato-ku, Tokyo, 105-0011 Japan
Organizer: The Japanese Society of Gastroenterology (JSGE) and Asian Pacific Association of Gastroenterolology (APAGE)
Email: int.comm@jsge.or.jp

Panama Gastro 2012
When: November 7-10, 2012
Location: ATLAPA Convention Center, Panama City, Panama
Email: gastro-panama2012@eventoskreativos.com
Website: http://www.gastropanama2012.com

Seoul International Digestive Disease Symposium 2012 In Conjunction With The Annual Meeting of KSG
When: November 22-23, 2012
Location: Sheraton Grande Walkerhill
Address: 177 Walkerhill-ro, Gwangjin-gu Seoul, South Korea
E-mail: sidds@intercom.co.kr
Website: http://www.sidds.org

6th AMAGE Congress

When: November 22 - 24, 2012
Location: Calabar, Nigeria, a peaceful and quiet area with beautiful scenery and many tourist attractions to enjoy during your stay
Hosted by: the African Middle East Association of Gastroenterology (AMAGE) in collaboration with the Nigerian Society of Gastroenterology (SOGHIN)
Organizer: Arab Organizers Company, Dr. Ibrahim Farouk, araborganizers@hotmail.com
President: Hussein Abdel-Hamid (Egypt)
Email: hussein.egypt22@gmail.com
Telephone: 0202 01006602429
Founding President: Ziad Shariha (Jordan)
Email: z_ash@hotmail.com
Vice President for Middle East: Siavosh Nasseri- Moghaddam (Iran)
Vice President for Africa: Ronald Ndoma (Nigeria)
Secretary General: Olusegun Ojo (Nigeria)
Email: segun.ojo@gmail.com
Telephone: 234 8033185701
Treasurer: Reda Elwakil (Egypt)
Email: wakil_md@yahoo.com
Treasurer: Edith Okeke (Nigeria)
Website: http://www.sixthamagecongress-calabar.com/

Iranian Congress of Gastroenterology and Hepatology 2012

When: November 27-30, 2012
Location: Razi Congress Center
Address: Hemmat Highway, Tehran, Iran
Organizer: Iranian Assocation of Gastroenterology and Hepatology
Email: mirnasseri@gmail.com
Website: www.iaghcongress.org

Asian Pacific Digestive Disease Week

When: December 5-8, 2012
Location: QSNCC (Queen Sirikit National Convention Center)
Address: 60 New Rachadapisek Road, Bangkok, Thailand
Organizer: APAGE (Asian Pacific Association of Gastroenterology)
E-mail: secretariat@apdw2012.org
Website: http://www.apdw2012.org

11th Gastro Forum München

When: January 18-19, 2013
Location: Auditorium Maximium der TU München und diverse Kliniken
Address: Arcisstr. 21, 80333, München, Germany
Organizer: COCS GmbH – Congress Organisation C. Schäfer
E-mail: katharina.meusel@cocs.de
Website: http://www.cocs.de

15th Düsseldorf International Endoscopy Symposium

When: February 1-2, 2013
Location: Maritim Hotel Düsseldorf
Address: Maritim-Platz 1, 40474 Düsseldorf, Germany
Organizer: COCS GmbH
E-mail: sandra.reber@cocs.de
Website: http://www.endo-duesseldorf.com

Canadian Digestive Diseases Week

When: March 1-4, 2013
Location: Victoria, British Columbia, Canada
Address: #224 – 1540 Cornwall Road, Oakville, ON, L6J 7W5
Organizer: Canadian Association of Gastroenterology
E-mail: CDDW@cag-acg.org
Website: http://www.cag-acg.org

23rd Conference of the Asian Pacific Association for the Study of the Liver (APASL)

When: March 7-10, 2013
Location: Singapore
Organizer: The Asian Pacific Association for the Study of the Liver (APASL)
E-mail: apaslconference@kenes.com
Website: http://www.apaslconference.org

6th Sydney International Endoscopy Symposium Incorporating the Westmead Endoscopy Symposium Nurses' Workshop

When: March 8-10, 2013
Location: The Hilton Sydney
Address: 488 George Street, Sydney, Australia
E-mail: info@e-kiddna.com.au
Website: http://www.sies.org.au

10th International Symposium on Functional Gastrointestinal Disorders

When: April 12-14, 2013
Location: Pfister Hotel, Milwaukee, WI, USA
Organizer: University of Wisconsin School of Medicine and Public Health, Office of Continuing Professional Development and the International Foundation for Functional Gastrointestinal Disorders (IFFGD)
E-mail: symposium@iffgd.org
Website: http://www.iffgd.org/symposium

Digestive Disease Week (DDW) 2013

When: May 18-21, 2013
Location: Orlando, Florida, USA
Organizers: American Association for the Study of Liver Diseases (AASLD), American Gastroenterology Association (AGA), American Society for Gastrointestinal Endoscopy (ASGE), and The Society for Surgery of the Alimentary Tract (SSAT).
Email: ddwadmin@gastro.org
Website: http://www.ddw.org

2nd International Conference on Gastroenterology & Urology

When: June 10-12, 2014
Location: Hilton Chicago/Northbrook, Chicago, Illinois
Organizer: OMICS Group
E-mail: gastroenterology2013@omicsonline.com
Website: http://omicsgroup.com/conferences/gastroenterology-urology-2013

The 32nd World Congress of Internal Medicine (WCIM 2014)

When: October 26-30, 2014
Location: COEX, World Trade Center Samseong-dong, Gangnam-gu, Seoul, Korea
Organizer: The International Society of Internal Medicine (ISIM)
E-mail: wcim2014@intercom.co.kr
Website: http://www.wcim2014.org

Highlighted events represent WGO member events. For a full listing of events, visit http://www.worldgastroenterology.org/major-meetings.html

The Latest News in WGO Global Guidelines and Cascades

NEW GUIDELINE JUST RELEASED!

NAFLD-NASH

WGO's newest guideline, Non-alcoholic Fatty Liver Disease and Nonalcoholic Steatohepatitis (NAFLD-NASH) is now available for download, and features cascade options for diagnosis in patients with suspected NAFLD-NASH as well as a therapy cascade for extensive, medium, and limited resources. NAFLD-NASH are now the number one cause of liver disease in Western countries, and play an equally important role in the Middle East, Far East, Africa, the Caribbean, and Latin America. Led by Professor Douglas LaBrecque, USA, this guideline was created with a global view with representation from Pakistan, Austria, Malaysia, Russia, Venezuela, Colombia, Mexico, India, Croatia, Canada, France and The Netherlands. Watch future issues of the monthly e-Alert as more languages are released!

Level 1—extensive resources	Availability	Feasibility	Remarks
1 Medical and family history to evaluate for risk factors; alcohol intake is a critical part of the patient history	Limited medical training required	Access to patients. Reliable history may be problematic	First step to identify potential patients: > 20 g/day in females > 30 g/day in males
2 General physical examination to evaluate for risk factors, BMI, and waist–hip ratio	Limited medical training required	Access to patients	
3 Test serum liver aminotransferases	Yes	Generally available	May be normal
4 Radiologic evaluation	Ultrasound; MRI more quantitative	Generally available	Insensitive if < 33% fat; cannot distinguish ASH from NASH
5 Serology to exclude viral hepatitis	HB_sAg, HCV Ab, HEV Ab when appropriate	Generally available	May coexist with NASH and exacerbate progression
6 Fasting blood sugar, lipid profile, HbA_{1c}	Readily available		
7 Screen for insulin resistance	Should be readily available		Would require further NAFLD/NASH evaluation if screen was positive
8 Rule out other chronic liver diseases	Optional and additional tests (see Fig. 5)	Generally available; expensive but important to rule out treatable coexistent diseases	Cost may be limiting
9 Liver biopsy and histology	Generally available	Requires experienced pathologist	The definitive test to rule out other diseases, grade and stage disease; cannot reliably distinguish NASH from ASH

Diagnostic Cascade for Level 1 – Extensive Resources

A Resource Sensitive Solution

RECENTLY UPDATED & RELEASED GUIDELINES!

Obesity

The Obesity Guideline is now available in multiple languages! Available for download at http://www.worldgastroenterology.org/obesity.html, the Obesity Guideline can now be downloaded in English, Spanish, Mandarin, and Portuguese. Look for more languages, soon! The Obesity Guideline is unique in having been updated to include five appendices: Nutrition, Pharmacotherapy, Lifestyle Changes, Surgery, and Obesity and the Elderly. You may also view the WGO Review Article on Obesity and the Elderly written by co-author of the Obesity Guideline, Prof. Elisabeth Mathus-Vliegen, on the Journal of Clinical Gastroenterology's website.

Acute Diarrhea

The Acute Diarrhea Guideline, led by Professor Michael Farthing, is now available! This guideline now features specific information on pediatric aspects of acute diarrhea. This aspect has been built by special advisor Dr. Mohammed Abdus Salem of the ICDDR-Bangladesh. The guideline has a cascade for acute, severe, watery diarrhea – cholera-like with severe dehydration. There is also a cascade for

acute, mild/moderate, watery diarrhea – with mild/moderate dehydration and, finally, the guideline has a third cascade for acute bloody diarrhea – with mild/moderate dehydration.

Begin downloading the updated version by clicking here, and watch future e-Alerts for announcements on more available languages!

Probiotics

Originally created in 2008, the 2011 updated version is now available in English, Spanish, Portuguese, Mandarin, and French and is now available for viewing in WGO's official Journal, the *Journal of Clinical Gastroenterology*.

Download the newest version now!

NEW GUIDELINES TO LOOK FOR IN 2012!

Along with the release of these Guidelines comes the creation of two very important Guidelines: A guideline on hepatitis C, led by Professor Umar of Pakistan, and a special guideline focused on this year's World Digestive Health Day, titled "*Coping with Common GI Symptoms in the Community; a Global Perspective*". This is the first Guideline with key GI symptoms as a starting point such as heartburn, abdominal discomfort, bloating and constipation. It is also unique having three care levels as the Cascade approach: from the view of the pharmacist, the primary care doctor, and a specialist. With this approach the aim is to build another unique and globally useful Guideline/Cascade that will help to cope with common but not disabling GI complaints.

Continue to watch *e-WGN* for news on the creation of these very important guidelines!