

Chris JJ Mulder, Professor, Series Editor

## Gastroenterology training in Latin America

Henry Cohen, Roque Saenz, Luiz E de Almeida Troncon, Maribel Lizarzabal, Carolina Olano

Henry Cohen, Gastroenterology Clinic, Montevideo Medical School, Av. Italia s-n, 11600, Montevideo, Uruguay

Roque Saenz, University del Desarrollo, Santiago, Avda, Las Condes 12438, Lo Barnechea, Santiago, Chile

Luiz E de Almeida Troncon, University of São Paulo, Ribeirão Preto. Rua Bernardino Campos, Rua Bernardino Campos 1000, Ribeirão Preto, SP, 14015-130, Brazil

Maribel Lizarzabal, University del Zulia, Calle 65 con Av, 19, Núcleo de Salud, Apartado Postal 15165, Maracaibo, Venezuela

Carolina Olano, Gastroenterology Clinic, Montevideo Medical School, Av. Italia s-n, 11600, Montevideo, Uruguay

Author contributions: Cohen H designed and wrote the manuscript; Saenz R, de Almeida Troncon LE, Lizarzabal M and Olano C contributed equally to the development of the paper.

Correspondence to: Henry Cohen, Professor, Gastroenterology Clinic, Montevideo Medical School, Av. Italia 2370, 11600, Montevideo, Uruguay. [hcohen@chasque.net](mailto:hcohen@chasque.net)

Telephone: +598-2-4801228 Fax: +598-2-4808472

Received: August 20, 2010 Revised: December 27, 2010

Accepted: January 3, 2011

Published online: May 14, 2011

### Abstract

Latin America is characterized by ethnic, geographical, cultural, and economic diversity; therefore, training in gastroenterology in the region must be considered in this context. The continent's medical education is characterized by a lack of standards and the volume of research continues to be relatively small. There is a multiplicity of events in general gastroenterology and in sub-disciplines, both at regional and local levels, which ensure that many colleagues have access to information. Medical education programs must be based on a clinical vision and be considered in close contact with the patients. The programs should be properly supervised, appropriately defined, and evaluated on a regular basis. The disparity between the patients' needs, the scarce resources available, and the pressures exerted by the health systems on doctors are frequent cited by those complaining of poor professionalism. Teaching development can play a critical role in ensuring the quality of teaching and learning in uni-

versities. Continuing professional development programs activities must be planned on the basis of the doctors' needs, with clearly defined objectives and using proper learning methodologies designed for adults. They must be evaluated and accredited by a competent body, so that they may become the basis of a professional regulatory system. The specialty has made progress in the last decades, offering doctors various possibilities for professional development. The world gastroenterology organization has contributed to the speciality through three distinctive, but closely inter-related, programs: Training Centers, Train-the-Trainers, and Global Guidelines, in which Latin America is deeply involved.

© 2011 Baishideng. All rights reserved.

**Key words:** Training; Gastroenterology; Latin America**Peer reviewer:** Kevin Cheng-Wen Hsiao, MD, Assistant Professor, Colon and rectal surgery, Tri-Service General Hospital, No. 325, Sec. 2, Cheng-Kung Rd, Nei-Hu district, Taipei 114, Taiwan, China

Cohen H, Saenz R, de Almeida Troncon LE, Lizarzabal M, Olano C. Gastroenterology training in Latin America. *World J Gastroenterol* 2011; 17(18): 2283-2287 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v17/i18/2283.htm> DOI: <http://dx.doi.org/10.3748/wjg.v17.i18.2283>

### INTRODUCTION

Latin America is home to over 50 countries and a population close to 600 million people. The two main languages are Spanish and Portuguese, but there is also long list of native languages. In the last 60 years, the economy of Latin America and the Caribbean grew by 4%, while the population increased by 2.1% annually. Although unemployment has dropped in recent years, it still averages 7.5%. Although the number of poor people in the overall population has dropped by more than 9% between 2002 and 2007, it is still

around 35%, which implies that 210 million people live in poverty in the region, i.e. prior to 1980, 39% of the population were poor. More positive results have been obtained for people living in extreme poverty; it is estimated that in 2007, 12.7% of the population lived in indigence, versus 18.6% in 1980; however, in absolute terms, the number of people affected increased from 62 million to 76 million in the same period. The mortality rate of children under five years of age is 27 per 1000 (27‰), that is one third of the average observed in developing countries (81‰). However, some nations like Bolivia (61‰) and Haiti (72‰) lag behind in this regard. With regard to income distribution, the region has experienced some modest progress. One of the elements that have been of concern to the regional economic authorities in 2007 and 2008 has been the rise of inflation in the region. According to ECLAC's (Economic Commission for Latin America and the Caribbean) estimates, since early 2006, and with greater impetus in 2007, consumer prices rose with increasing speed in most economies in the region, with annual increases of 7% to 30% in the various countries and an average close to 16%<sup>[1]</sup>.

Most countries in Latin America and the Caribbean have succeeded in enforcing universal primary education, and they are experiencing an expansion of pre-school, secondary, and tertiary education.

In 2006, there were 16 million students enrolled in further education in Latin America and the Caribbean. The average rate of enrollment in universities went from 21% to 31% between 1999 and 2006, but varied from one country to another (3% in Belize to 88% in Cuba)<sup>[2]</sup>.

To summarize, Latin America is characterized by ethnic, geographical, cultural, and economic diversity; therefore, training in gastroenterology in the region must be considered in the framework of this context.

## CURRENT STATUS OF MEDICAL EDUCATION IN GASTROENTEROLOGY IN LATIN AMERICA

The continent's medical education is typically characterized by the following features: a large number of medical schools in some countries, most of which grant no local accreditations; teaching is done by various agencies in the country, with no common programs and without previously agreed requirements for the gastroenterologist's (GE) or the endoscopist's training. In sum, a lack of standards is its main feature.

### *Current status of scientific research in gastroenterology in Latin America*

Despite the efforts of several groups, especially those working in Mexico, Brazil, Peru, Chile, and Argentina, the volume of research continues to be relatively small, highlighting some contributions in the field of *Helicobacter pylori* and Celiac Disease, among others. There is still much to learn and report about the continent, especially with regard to epidemiology.

**Table 1** Number of citable papers in all gastroenterology fields indexed at the SCOPUS database originating from three South American countries

Year	Argentina	Brazil	Colombia
2000	20	100	3
2008	28	220	46

Data were extracted from SCImago-Journal and Country Rank (retrieved on July 13, 2010, from <http://www.scimagojr.com>).

Nevertheless, continued investment in scientific research by government agencies in some countries, such as CONICET (Argentina), CNPq (Brazil) and COLCIENCIAS (Colombia) has been associated in recent years with a remarkable increase in the output of indexed papers in all fields, including gastroenterology, coming from these countries (Table 1).

### *Scientific events in gastroenterology in Latin America*

There is such a multiplicity of events, that they might even be considered excessive. There is usually a succession of general gastroenterology events as well as others that deal with sub-disciplines, both at regional and local levels. Although this results in an undesirable fragmentation of the field, the positive consequence is that these events ensure that many colleagues have access to information, with the caveat that such information may not always be necessarily reliable or of good quality. It is important to address the role of the pharmaceutical industry and medical equipment in the continuing professional development programs (CPDPs).

Needs: Medical education programs must be based on a clinical vision and be considered in close contact with the patients. They should require previous training in Internal Medicine (via a two-year internship or a full postgraduate fellowship).

Proper supervision of the programs must be ensured. It is essential for each institution that the courses be accredited and to have links with the School of Medicine, to ensure that the premises are adequate, and that there is the necessary equipment and clinical support.

It is important to guarantee that the gastroenterologist's (GE's) training course is of an adequate duration (two to three years) with a minimum dedication of six hours a day. The recommendation is to prioritize the training of trainers that have no teaching background.

Moreover, it is essential for the programs to be appropriately defined and evaluated on a regular basis. The programs should guarantee the GE's training concerning the development of their skills and attitudes. The importance of electronic methods (e-teaching, e-learning, the use of the internet) must be emphasized. The syllabus should also contemplate the teaching of basic administration skills.

The disparity between the patients' needs, the scarce resources available, and the pressures exerted by the health systems on doctors are frequently cited by those that complain about their poor professionalism.

Teaching development can play a critical role in ensuring the quality of teaching and learning in universities. “A good university teacher is not the one who prepares their students to pass an exam, it is the one who obtains a student’s valuation of learning and a critical thought. He is also the one who encourages them to solve problems with creativity and curiosity and with ethical commitment as well as with a desire of improving their knowledge in a specific subject.”<sup>[3]</sup>

Briefly put, the CPDP activities must be planned on the basis of the doctors’ needs, with clearly defined objectives, using proper learning methodologies designed for adults. Andragogy, defined as “the art and science of helping adults learn”, is based on five assumptions about how adults learn and their attitude towards, and motivation for, learning: (1) adults are independent and self directing; (2) they have accumulated a great deal of experience, which is a rich resource for learning; (3) they value learning that integrates with the demands of their everyday life; (4) they are more interested in immediate, problem centred approaches than in subject centred ones; and (5) they are more motivated to learn by internal drives than by external ones.

The CPDP activities must also be evaluated and accredited by a competent body, so they may become the basis of a professional regulatory system (recertification or others). One of the greatest challenges is to balance the needs of professional employers and health care systems with those of the patients.

## WHAT SHOULD THE FUTURE GASTROENTEROLOGIST LEARN?

Future specialists naturally aim at following their vocation, working with dignity and ethics, applying their knowledge, maintaining an ongoing training, and at times, they may seek academic development (teaching or research). The specialty has made progress in the last decades, offering the doctors various possibilities for professional development; it is no longer the outlook faced by the clinical gastroenterologist 50 years ago, or by more recent endoscopists. Today’s GE can choose to develop an in-depth knowledge on certain sub-specialties, such as nutrition, hepatology, transplantations, interventional endoscopy, capsule endoscopy, NOTES (Natural Orifice Translumenal Endoscopic Surgery), motility, etc. In sum, the Latin American GE’s training must be comprehensive, taking into account both society’s interests, as well as the doctors’ legitimate objectives.

## SOME EXAMPLES ON THE TRAINING OF GASTROENTEROLOGISTS IN LATIN AMERICA

In Argentina, there are no unified criteria to be met to graduate as a gastroenterologist. The courses are dictated by the Argentine Society of Gastroenterology in partnership with the University of Buenos Aires, or by private or state-run schools of medicine in the interior of the country. Overall, there are eight courses that train GEs lasting

for two to three years. Entry to the courses requires the completion of two years of internal medicine. There is no single accreditation body, nor are there any unified requirements for the training of endoscopists or liver experts<sup>[4]</sup>.

In Uruguay, the specialists’ training depends on the state School of Medicine’s School of Graduates. It does not request a post-graduate degree in internal medicine. The gastroenterology course takes three years on a part-time basis, and it includes theoretical and hands-on activities that also include liver diseases. A degree in endoscopy has been recently created.

In Chile, gastroenterology is viewed as part of internal medicine. A GE is an internist that must go through three additional years in the specialty. There are several university programs in gastroenterology. The universities are recognized by the National Medical Certification Board.

Both Argentina and Chile have implemented mechanisms to regularly renew accreditation to specialists.

In Brazil, specialist training in gastroenterology has been regulated since 1977 by federal legislation, which established a two-year program in accredited institutions for candidates who have already completed a previous two-year basic training in Internal Medicine. Thus, the typical training takes four years, but most programs affiliated to university hospitals offer an additional elective year in sub-specialties, such as endoscopy or hepatology. After completing the specialist training, gastroenterologists are eligible to apply for certification, conferring the specialist title, which is provided by the Brazilian national gastroenterology society, known as Federation of Gastroenterology (FBG), to candidates passing the relevant examinations. Accreditation of institutions is provided by a federal agency, the National Commission for Medical Residency, on the basis of the characteristics of both the institution (infrastructure, number of hospital beds, average of outpatients visits, certified personnel, *etc*) and the program quality (balance between inpatients and outpatients activities, supervision, hours of endoscopy training, *etc*).

CME (Continuous Medical Education) in Brazil has been a compulsory requirement for the renewal of the specialist title since 2005, following the creation of the professional update certificate CAP (acronym for Certificado de Atualização Profissional). Starting in January 2011, the titles will be renewed only to those who obtained their CAP or acquired a minimum of 100 CME credits in the previous five years. Those who fail have to sit an additional exam to keep their title. The national societies of each specialty, such as the Brazilian FBG, participate in the National Accreditation Committee (CNA) with other organizations, such as the Brazilian Medical Association or the Medical Federal Board. The CNA evaluates organizers’ applications for activities that intended to grant CME credits and validates the credits already obtained by doctors. The national societies are requested to organize activities to provide a minimum of 40 credits a year. This is followed strictly by the FBG, which has the organization of CPDP meetings and distance learning activities as one of its main aims. Regarding the Medical Schools and the University hospitals, de Almeida Troncon *et al*<sup>[5]</sup> thinks that they do not devote enough time

and effort to comply with that requirement. His concerns about the support of the CME activities by the biomedical industry are based on the lack of independence of the programs. Lack of evaluation of the activities is another weakness of the program in Brazil, where the cognitive aspects are emphasized over the acquisition of skills and attitudes. Evidence that the CME activities in Brazil are positive for the quality of medical work is still scarce. Troncon suggests that new ways of implementing CME have to be found: funding must come from the Medical Schools and the working institutions, which should adopt the principles of adult learning, especially in identifying the needs of learners, developing the objectives of the activities, and finally designing the curricula. Finally, he stresses that the evaluation is a key issue in that process.

Venezuela: There are approximately seventy students within the sixteen post-graduate programs in gastroenterology in Venezuela. All of them differ in curriculum, academic and research structure, and even in their own graduation profile. The group led by Lizarzabal *et al*<sup>61</sup> tested their individual and global quality by conducting a users-satisfaction survey, questioning students and program directors. The sample included 46 students who answered anonymously. The students' results showed that 13% of the programs were considered to be of excellent quality (A) and 8.7% of the programs were graded as B (good). An important group (71.7%) was graded as C (bad) and 6.5% as D (very bad). Users' perception differed from the perception of directors, who evaluated the quality of more than half (57%) as A-B, while only 21.7% were graded A-B by the users.

In view of the above results, the Society of Gastroenterology of Venezuela made some recommendations to improve the quality of the postgraduate teaching programs, which are summarized as follows: (1) Implementing structured and explicit curricular designs in 100% of the Venezuelan Gastroenterology Postgraduate Programs; the programs that already have such designs (60%) will be asked to apply consistently unified criteria; (2) Request that 100% of the programs be accredited by the National Universities Council (CNU) before pursuing certification and re-certification; (3) Strengthen a culture of research; (4) Develop evaluation strategies to allow monitoring of the service provided; (5) Improve proficiency of the human resources available. Most of the staff lack the academic training needed to implement an adequate curricular design, evaluation, research, and learning strategies; and (6) Plan and reach consensus on education in Gastroenterology with a broad participation of the stakeholders. The profile and training of the Venezuelan gastroenterologist is still to be defined.

## CONTRIBUTIONS OF THE WGO (WORLD GASTROENTEROLOGY ORGANIZATION) TO THE SPECIALITY IN LATIN AMERICA

The current objectives of WGO are enshrined in its mission statement: "to promote, to the general public and health care professionals alike, an awareness of the worldwide prevalence and optimal care of digestive disorders

through the provision of high quality, accessible and independent education and training", which signals the commitment of WGO to address two challenges: firstly, providing the gastroenterologist of the future with an optimal training and, secondly, bringing the benefits of digestive health care to those who currently struggle or, indeed, fail to achieve access to it. The primary emphasis of WGO, therefore, is on education and training. These objectives are achieved through three distinctive, though closely inter-related, programs: Training Centers, Train-the-Trainers, and Global Guidelines.

Training Centers most directly address the issue of training specialists in gastroenterology or individuals with additional expertise in gastroenterology to serve previously underserved areas. Each centre represents a direct collaboration between local experts, international faculties, and national and regional societies from Europe and North America to deliver regionally relevant training to those who have limited, or in some cases, no access to such opportunities. The centers in Latin America: La Paz, Bolivia; La Plata, Argentina; Santiago, Chile; Mexico City, Mexico; San José, Costa Rica; and Bogota, Colombia, provide training of variable duration to several hundred young and aspiring gastroenterologists and digestive surgeons from underserved nations in the region. The newest center was inaugurated two years ago in Ribeirão Preto, State of São Paulo, Brazil, and is dedicated solely to training in gastrointestinal motility techniques. The centers offer an in-depth view of the various aspects of the field (clinical, endoscopic, and motility). On the other hand, the Inter American Association of Gastroenterology (Asociación Interamericana de Gastroenterología: AIGE) has created scholarships to facilitate the access of six gastroenterologists to the WGO's teaching centers annually.

Finally, it is an important aim for WGO to create an electronic network among all its teaching centers that will include the seven in Latin America. This network should be accessible to all who seek to train in our specialty; thereby, ensuring the highest standards of care for those who suffer from digestive disorders through the world.

Likewise, the WGO has already organized four courses called "Train the Trainers" (TTT) in South America (Uruguay, Brazil, Chile, and Peru), in an attempt to remedy a global problem, i.e. the local faculties' lack of training on educational methodology to teach at university level. Train-the-Trainers courses are uniquely devoted to bringing the very latest in educational techniques to those who will train the gastroenterologists of the future, including those who teach and train at the Training Centers. The TTTs are developed in several modules aimed at teaching educational skills to faculties, in a user-friendly manner, in an informal and friendly atmosphere.

Even if gastroenterologists should nowadays be fluent in English, language can be an issue in such TTT courses in Latin America. The WGO has decided to begin TTTs in Spanish in 2011.

Another activity pushed forward by the WGO, and in which Latin America has been deeply involved, is the devel-

opment of the Clinical Guidelines (CG), with one peculiarity: they are the only ones to consider the availability of resources globally, through the so-called cascade mechanism that enables a professional to adapt the situation to a specific patient, in the patient's own context. To make guidelines more applicable to different resource environments, the concept of "cascades" has been developed. A cascade is a collection of related diagnostic and treatment options arranged hierarchically in terms of conditions and available resources. Whilst guidelines should continue to summarize best known practice, they could also include alternatives for clinicians with limited funding. These alternatives are usually on the basis of cost, but could also take account of local availability, technology, and infrastructure<sup>[7]</sup>.

The complete texts of all the CGs are fully available at the site of the WGO ([www.worldgastroenterology.org](http://www.worldgastroenterology.org)) in six languages, including Spanish and Portuguese. Outstanding Latin American gastroenterologists were involved in the development of several CGs, such as the one on Celiac Disease or *Helicobacter pylori* in the developing world.

## REFERENCES

- 1 **Sinóptica económica de América Latina 2007-2009.** INFOLATAM (España). Available from: URL: [http://www.infolatam.com/entrada/sinoptica\\_economica\\_de\\_america\\_latina\\_20-11184.html](http://www.infolatam.com/entrada/sinoptica_economica_de_america_latina_20-11184.html)
- 2 **Informe de Seguimiento de la EPT en el Mundo 2009.** "Superar la desigualdad: por qué es importante la gobernanza" UNESCO. Available from: URL: [http://www.unesco.org/education/gmr2009/press/Factsheet\\_LAC\\_ESP.pdf](http://www.unesco.org/education/gmr2009/press/Factsheet_LAC_ESP.pdf)
- 3 **Bain K.** What the best collage teachers do. Cambridge, MA: Harvard University Press, 2004
- 4 **Bai J, Smecuol E.** The making a gastroenterologist: Argentina. *Aga Perspectives* 2009; **5**: 15-16
- 5 **de Almeida Troncon LE.** Educacao Medica Continuada en Gastroenterologia: Uma visao crítica. *Arq Gastroenterol* 2009; **46**: 3
- 6 **Mandeville KL, Krabshuis J, Ladep NG, Mulder CJ, Quigley EM, Khan SA.** Gastroenterology in developing countries: issues and advances. *World J Gastroenterol* 2009; **15**: 2839-2854
- 7 **Maribel L, De León Luís R, Ramón PJ.** Calidad de los Programas de Postgrado de Gastroenterología en Venezuela. Parte II. Percepción del estudiante (satisfacción del usuario). *Revista GEN* 2007; **61**: 266-276

S- Editor Tian L L- Editor Stewart GJ E- Editor Ma WH