The Impact of COVID-19 Pandemic on Neurogastroenterologists in Latin America

Results of an Online Survey

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Background: The COVID-19 pandemic has affected medical practice in fields not related to the infection. Neurogastroenterology is a subspecialty of gastroenterology focused on motility and functional gastrointestinal disorders, including consultations, and conducting procedures (eg, endoscopies, manometries/pH-monitoring).

Aim: The aim of this study was to determine the impact of COVID-19 on Neurogastroenterology in Latin America.

Methods: Members of the Latin American Society of Neurogastroenterology were invited by e-mail and social networks to participate in an online anonymous survey. It included 24 questions on demographics, clinical practice and procedure characteristics, impact of the pandemic, Telemedicine, and involvement in COVID-19 patient care.

Results: Sixty-one members mainly from Colombia, Mexico, and Brazil answered the survey. All reported a negative impact on their practice (88.6%: a 61% to 100% decrease), mainly in office consultations and elective endoscopies. Interestingly, emergency endoscopies decreased by 33.3%, while only 4% stopped performing manometries/pH-monitoring. The main reasons were patients' fear for consulting, country's lockdown, and physician's decision to prevent infection spread. Telemedicine was implemented by 83% but only 64.7% were being remunerated. Almost 46% had to reduce salaries and working hours of their personnel. Fifty-nine percent had colleagues diagnosed with COVID-19, 24.6% were involved in these patients' care, and 11.5% were mobilized to COVID-19 wards. There were country differences: Colombia, lockdown ($P = 0.001$); Mexico, COVID-19 patient-care ($P = 0.053$); Mexico/Colombia, working in COVID-19 wards, ($P = 0.012$); Brazil, less common elective procedures' ban ($P = 0.012$) and Telemedicine/reimbursement ($P = 0.034$).

Conclusions: The COVID-19 pandemic has negatively impacted the practice and wellness of Neurogastroenterologists in Latin America. Guidelines to resume activities and policies for Telemedicine practice and reimbursement are warranted.

Key Words: COVID-19, neurogastroenterology, clinical practice, manometries, endoscopies, telemedicine

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The COVID-19 outbreak, name for the novel severe acute respiratory syndrome coronavirus-2 (SARS-Cov-2), is severely disrupting the global economy and is negatively impacting the health systems as well.[1] Almost all nations are struggling against this infectious disease.[2] Although physicians are in the frontline of the fight against this pandemic, and the need for medical supplies has significantly increased, implemented measures and policies to control the spread of the infection, such as social distancing and self-isolation,[3] and the precaution required for the protection of patients from nosocomial transmission as well as of the health care workers, have also affected the practice of medicine in fields not related to the infection itself or the acute respiratory distress that it produces.[4] In contrast, the COVID-19 pandemic is also affecting the global mental health, including an increase in additional health problems such as stress, anxiety, depressive symptoms, insomnia, denial, anger, and fear.[5] Physicians and health care workers are not exempted from this issue.[5]

Neurogastroenterology is a new advancing subspecialty of Gastroenterology dedicated to the study of the interactions between the gut and central nervous system, focusing on the functioning and abnormalities in the brain, and in sympathetic, parasympathetic, and enteric innervation of the digestive tract.[6,7] Neurogastroenterologists deal with all of the spectrum from basic science to clinical practice within the gut-brain axis. In the clinic, these specialists take care of patients with digestive motility disorders and functional gastrointestinal disorders (FGID), now called disorders of gut-brain interaction (DGBI) by the most recent Rome IV criteria.[8] Therefore, Neurogastroenterologists can dedicate to consulting patients and/or perform gastrointestinal endoscopy, physiology testing such as motility studies of the digestive tract, esophageal pH-monitoring, and even breath

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tests.[7] However, it is presumed that the SARS-CoV-2 spreads primarily via respiratory droplets from contact with symptomatic individuals, and infection can also occur from unknown infected persons and individuals during the pre-incubation period.[9] There is also a possibility of potential fecal-oral transmission.[10–12] Accordingly, during the current COVID-19 pandemic, restrictions for clinical practice and procedures have been extended to Gastroenterologists as well and have resulted in the shutting down of motility laboratories.[13] International societies have called for delaying elective procedures such as upper and lower endoscopic procedures in asymptomatic patients, as well as motility procedures including esophageal and anorectal manometries, wireless motility capsule testing, and ambulatory pH-testing, for up to 8 weeks.[13,14] In addition, Telemedicine has been recommended as an opportunity to provide patient care and to decrease the possibility of COVID-19 transmission.[13] However, no such guidelines are in place in Latin America.

Therefore, we aimed at studying the impact of the current pandemic in the clinical practice of Neurogastroenterologists in Latin America. We hypothesized that there has been a significant negative effect in the clinical practice and in the performing of procedures, and, subsequently, there has been a decrease in revenues; there has also been a furlough in administrative and technical personnel. In addition, we were interested in exploring whether Neurogastroenterologists in the region were using Telemedicine, whether they were reimbursed for this approach, whether they had been moved to treating patients with COVID-19, and, finally, whether they were carrying out other activities while on quarantine.

METHODS

Members of the Latin American Society of Neurogastroenterology (*SLNG*) were invited to participate on an internet survey (Google forms) about the impact of the COVID-19 pandemic on their clinical practice. The *SLNG* was established in 2008, and members of different local Neurogastroenterology and Motility Clubs and Associations from Argentina, Brazil, Chile, and Mexico, were automatically considered members of the SLNG; together with those not belonging to these organizations or from other countries of the region (eg, Dominical Republic, Colombia, Costa Rica, Equator, Guatemala, Panama, Peru, Uruguay, others) without local Neurogastroenterology and Motility Clubs/Associations who directly registered in the SLNG. That accounts for 307 members. However, in 2019, yearly dues were implemented, and 60 members, in total, completed their payments. Therefore, a massive invitation with the link to the survey was sent by e-mail to all members in good standing in the 2019 fiscal year and through the SLNG's WhatsApp site in which the members communicate daily, for news, general announcements, and advancements in the field. The survey was open between April 30, 2020 and May 5, 2020.

The survey questionnaire started with a statement that their participation was voluntarily and completely confidential, and no personal identification was requested. This questionnaire was specifically designed for this study (Supplementary Material, Supplemental Digital Content 1, http://links.lww.com/JCG/A610). It included 24 multiple-choice questions, covering demographic information, country of residence and work, type of practice (ie, private practice, multispecialty clinic, private hospital, public hospital, academics); procedures performed [ie, upper, lower endoscopies or both (elective or emergency), endoscopic retrograde colangiopancreatographies, manometries (esophageal, anorectal), esophageal pH-monitoring, breath tests]; whether the current pandemic had impacted on their practice
[ie, percentage of decrease, time in weeks since it was affected, reason for diminishing of clinical practice (official order, hospital transformation into a COVID-19 center, absence of personal protective equipment-PPE, personal decision for precautionary reasons, fear of patients to consult and get infected)]. Moreover, the questions covered the usage of any type of Telemedicine (ie, videoconference platforms, phone calls, or both) and whether they were being remunerated for the service, as well as the reasons for not using this approach or not being paid for it; furthermore, the questions also covered whether they had to let go or decrease the working hours and salaries of administrative and health care personnel. Other questions included whether they felt anxious or depressed because of the current situation, whether they had been infected with the SARS-CoV-2 or whether any of their patients, relatives, or acquaintances had been infected, and whether they were noticing an increase in consultations for FGID/DGBI. Finally, there was a question to learn whether they were doing other activities while at home on quarantine. The survey did not take >10 minutes to answer.

A descriptive analysis was conducted. Results are expressed in percentages and were analyzed using χ^2 when appropriate. The IBM-SPSS Statistics v20 was used.

RESULTS

A total of 61 members, from 12 countries in Latin America, answered the survey. Physicians who answered the survey not necessarily included those in good standing. Respondents by country comprised 3.5% of the total members from Argentina (n = 113), 8.4% from Brazil (n = 131), 100% from Colombia (n = 16), 50% from Chile (n = 8), 33.3% from Ecuador (n = 3), 40% from Guatemala (n = 5), 83.3% from Mexico (n = 18), 50% from Nicaragua (n = 2), 20% from Panamá (n = 5), 100% from Peru (n = 3), 50% from Uruguay (n = 4), and 100% from Venezuela (n = 1). However, of the 61 that answered the survey, there was a predominance from Colombia (26.2%), Mexico (24.6%), and Brazil (18.0%), followed by 31.2% from the other countries. Although results are presented for Colombia, Mexico, Brazil, and the other countries, when appropriate, between-country comparisons were conducted only for the 3 major represented countries.

The demographic and clinical practice characteristics of those answering the survey is depicted in Table 1. There was a slight predominance in men physicians, and the majority (62.3%) were in the 41 to 60 years age group. As for the type of practice, 96.7% reported having private practice, mainly office; either, solo, gastroenterology subspecialty group of multispecialty group clinic. Of the total subjects, only 2 physicians reported working exclusively in academics or in a university hospital.

Impact of the Pandemic on Clinical Practice

All (100%) reported that the COVID-19 pandemic had negatively impacted their practice. There were several levels of decrease; 88.6% reported between 61% and 100% decrease, while 36.1% reported a 91% to 100% decline,

TABLE 1. Demographic and Clinical Practice Characteristics of the Study Physicians

Characteristics	N = 61 (Frequency) [n (%)]
Sex (female, male)	26, 35 (42.6, 57.4)
Age group (y)	
20-30	1 (1.6)
31-40	9 (14.8)
41-50	15 (24.6)
51-60	23 (37.7)
61-70	10 (16.4)
>70	3 (4.9)
Type of clinical practice	
Private Practice Office (Solo, GI Subspecialty Group, Multispecialty Group)	19 (31.1)
Private Practice Office and Hospital	13 (21.3)
Private Practice Office and Hospital, and Academics	17 (27.9)
Private Practice Office, University Hospital and Academics	2 (3.3)
Private Practice Office and Hospital, and University Hospital	8 (13.1)
University Hospital only	1 (1.6)
Academics only	1 (1.6)
Performs diagnostic and or therapeutic procedures (ie, endoscopic, motility): yes	59 (96.7)
Specific procedures performed	
Elective upper and/or lower GI endoscopies only	3 (4.9)
Manometries/pH monitoring only	10 (16.4)
Elective upper and/or lower GI endoscopies and manometries/pH monitoring	11 (18)
Elective and emergency upper and/or lower GI endoscopies and manometries/pH monitoring	18 (29.5)
Elective and emergency upper and/or lower GI endoscopies, ERCP, and manometries/pH monitoring	11 (18)
Elective and emergency upper and/or lower GI endoscopies, ERCP	1 (1.6)
Elective and emergency upper and/or lower GI endoscopies	6 (9.8)

ERCP indicates endoscopic retrograde cholangiopancreatography; GI, gastrointestinal.

suggesting that a group went out of business. Eighty percent said that their practice began to decrease between 5 and 7 weeks before the survey, 5.2% reported 8 to 10 weeks before, and only 13% reported that their practice started to diminish during the previous 3 weeks. As for the area of their clinical practice that had been affected, 50/54 (80.6%) reported a decrease in office consultations. Seeing hospitalized patients was also reported to be affected by 17/26 (65.4%) in private practice hospitals and by 6/9 (66.7%) in university hospitals without any difference between the 2 ($P = 0.757$). Moreover, of those regularly doing elective endoscopic procedures, almost all 40/41 (97.6%) reported a decrease in these procedures, and 12/36 (33.3%) of physicians who usually performed emergency-urgent endoscopic procedures, reported that those went down ($P < 0.001$). As for manometries and pH-monitoring, the main procedures of a motility laboratory, only 2 of 50 physicians who performed these procedures, reported that they were not running them.

The reasons for the decrease in clinical practice and procedures performed during the pandemic are depicted in Table 2. These included patients' fears that having procedures in a clinical setting will lead to their infection, official lockdown, physician's personal decision to avoid infection and for protecting the patients, and hospital prohibitions to run these elective procedures. It is important to note that 30.0% of the physicians reported 2 reasons for explaining the fall in their practice, 26.7% 3, 21.7% 1, 16.7% 4, 3.3% 5, and 1.7% (1 subject) 6 reasons.

TABLE 2. Reasons for Practice Decline According to Countries

Reasons	Colombia (N = 16) [n (%)]	Brazil (N = 11) [n (%)]	Mexico (N = 15) [n (%)]	*P*
Official lockdown order n (%)	13 (81.2)	4 (36.4)	2 (13.2)	0.001*
Hospital order for physicians >60 y old	3 (18.8)	1 (9.1)	0	0.206
Physicians personal decision	8 (50.0)	7 (63.6)	9 (60.0)	0.751
Hospital canceled/ban elective procedures	11 (68.8)	1 (9.1)	7 (46.7)	0.009*
Hospital transformed into COVID-19 center	1 (6.2)	1 (9.1)	1 (6.7)	0.957
Patients' fears of infection	10 (62.5)	1 (9.1)	12 (80.0)	0.001*
Lack of PPE	1 (6.2)	0	1 (6.7)	0.688
University/Academic Institutes in Quarantine	0	3 (27.3)	2 (13.3)	0.097

Pearson χ^2 was used for comparisons.
PPE indicates personal protection equipment.
*Significant differences.

In relation to countries, there were significant differences in the negative impact on office consultations. A 100% fall in presential office visits was reported in Colombia and Mexico, and 81.8% in Brazil ($P = 0.052$). Stopping elective endoscopic procedures was reported by all physicians from Colombia, 93.3% from Mexico, and 63.6% from Brazil ($P = 0.012$). Furthermore, there was a marginal difference among the countries in the reduction of physiology testing ($P \leq 0.05$); however, this was mainly driven by only 2 physicians, 1 from Mexico and 1 from Venezuela who had stopped performing these motility laboratory procedures. There were no differences according to countries in stopping emergency endoscopic procedures ($P = 0.126$).

There were also significant differences according to countries in the reasons for clinical practice decrease. Official order for lockdown was more common in Colombia ($P = 0.001$), while prohibition to perform elective procedures was very uncommon in Brazil ($P = 0.009$), and patients fears for becoming infected while doing an elective procedure was more common in Mexico and in Colombia than in Brazil ($P = 0.001$). The number of reasons was not different according to countries: 1 reason was reported by 45.5% in Brazil, 2 reasons in 45.5% in Brazil and 42.9% in Mexico, 3 reasons in 43.8% in Colombia and 28.6% in Mexico, and 5 reasons for practice decline was only reported in Colombia ($P = 0.107$).

Practicing Telemedicine and Personnel Furloughing

Eighty-three percent of the physicians reported doing some type of Telemedicine including using videoconference systems for consultation (34.4%), phone calls (23%), and both

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(26.2%). The reasons for not using Telemedicine by the remaining 16.4% of the surveyed physicians were as follows: 4 from Mexico and 1 from Central America answered that patients would not accept Telemedicine; 2 from Brazil did not feel prepared to do Telemedicine; and 1 each from Chile and Brazil answered that their Institution and local regulations did not allow Telemedicine. In addition, of the 51 physicians that confirmed doing Telemedicine, only 64.7% reported to be paid for the service. When comparing Colombia, Mexico, and Brazil, there were also significant differences, 75.0%, 63.6%, and 22.2%, respectively ($P=0.034$).

As for the situation of the administrative and technical personnel working in the physician's clinics, 54% answered that their personnel were doing home office, 44.3% had to reduce the working hours and salaries, and 1.6% had to reach an agreement to reduce the salaries of their associates with similar working hours. There were no differences in these measures according to countries ($P=0.669$).

COVID-19 Diagnosis

Fortunately, none of the surveyed physicians reported being diagnosed with COVID-19; however, 59% had colleagues who had been diagnosed with the viral infection. Only 1 physician reported having a household member infected with SARS-CoV-2, and 8.2% reported having other relatives infected outside their household. In addition, 11.5% had been mobilized to work in the COVID-19 wards, and 24.6% had already diagnosed patients with COVID-19. The majority of Neurogastroenterologists who had diagnosed patients with COVID-19 were not working in COVID-19 wards compared with those who were working in these wards (73.3% vs. 26.7%, respectively, $P=0.034$).

According to countries, Neurogastroenterologists from Mexico were the ones most diagnosing COVID-19 patients (53.8%), followed by those from Brazil (36.4%) and Colombia (12.5%) ($P=0.053$). Moreover, mobilization to work in COVID-19 wards was only reported by Neurogastroenterologists from Mexico (33.3%) and Colombia (12.5%), but not from Brazil or from any of the other countries ($P=0.012$). In addition, there were no country differences according to having members of their household infected, having other relatives infected outside of their household, or colleagues infected (data not shown).

Anxiety and depression because of the current pandemic were reported by 78.7% of the surveyed physicians. The presence of psychological distress was more common among those who had a negative impact on conducting elective endoscopic procedures ($P=0.027$) or in clinical consultations, elective and emergency endoscopic procedures together ($P=0.016$), and there was a trend when having a colleague diagnosed with COVID-19 versus not (64.6% vs. 38.5%, $P=0.089$). These psychological effects were not related to physicians' age-group or any other factor. Only 36.1% reported having observed an increase in the number of consultations for FGID/DGBI, without any difference according to countries ($P=0.383$).

Finally, all answered to be doing other activities while on quarantine at home including academic activities (86.9%), reading (75.4%), housekeeping/house chores (73.8%), watching movies (67.2%), cooking (63.9%), and other activities (39.3%). There were some country differences as well, mainly less commonly reported by Neurogastroenterologists in Brazil: Academic activities (Colombia: 87.5%, Mexico: 100%, Brazil: 54.5%, $P=0.008$); cooking (81.2%, 40.0%, 45.5%, respectively, $P=0.045$); housekeeping/chores (100%, 73.3%, 45.5%, respectively, $P=0.005$); watching movies (93.8%, 73.3%, 45.5%, respectively, $P=0.020$); while there were no differences in reading and other activities (data not shown).

DISCUSSION

In the current study, we analyzed the impact of the COVID-19 pandemic on the practice of 61 members of the *SLNG* who voluntarily answered an anonymous online survey. The majority of the participants were from Colombia, Mexico, and Brazil. As expected, most of them (>96%) have private practice, even 27 of the 29 reporting that they worked in academics, also had private practice. All of them reported that COVID-19 pandemic had negatively impacted their practice at different levels. Three main issues derived from this survey deserve to be discussed, including precisely the impact of the pandemic in the practice of Neurogastroenterology in Latin America and the reasons for this affection, the practice of Telemedicine, and the involvement of these specialists in the care of patients with COVID-19.

The first issue, the impact of the pandemic on clinical practice is an important one, because in contrast to other parts of the world, in Latin America, physicians need to do private practice even when working in academics. The reason is because academic positions offer low salaries, and, in some countries, these are even honorary appointments. In other words, private practice is the main or the only source of income for physicians in Latin America. In addition, the fall in their practice in a rate higher than 61%, and the fact that more than a third reported to be almost out of business because of the pandemic, is worrisome. This is especially important because it is similar to reports from other places such as the United States in which 97% of practices have experienced a negative financial impact directly or indirectly related to COVID-19.[15] Furthermore, in this region, there are no financial aids for medical practices as there are now in countries such as the United States, nor are there tax reductions or stimulus packages.[16] Furthermore, the decrease in the Neurogastroenterologists practices herein found, had been running for 5 to 7 weeks in the majority of the cases, a timeframe that is in agreement with the path of the pandemic from China to the rest of Asia, Europe, Canada, and the United States, and later to Mexico, Central, and South America.[17]

As expected, elective endoscopic procedures fell by almost 98%; however, the fact that emergency endoscopic procedures went down by a third, was unexpected. Upper and lower gastrointestinal bleeding or suspected bleeding leading to symptoms, dysphagia significantly impacting oral intake (including endoscopy for intolerance of secretions due to foreign body impaction or malignancy (stent placement), or cases where endoscopic procedure will urgently change management (eg, inflammatory bowel disease), should not be deferred according to international guidelines.[18,19] Furthermore, it is currently known that COVID-19 can cause upper gastrointestinal bleeding as the first manifestation presenting to the emergency room.[20] Herpetic-shape ulcers[21] and hemorrhagic colitis[22] have also been reported in COVID-19. Thus, one may question whether patients are not consulting to the emergency room because of fear of being infected with SARS-CoV-2. In fact, this was the main reason for the decrease in the clinical practices by Neurogastroenterologists in Latin America according to the current survey. Therefore, patient-directed

educational campaigns to consult on time for emergency medical situations are warranted.

The finding that the majority of physicians continued performing manometries and esophageal pH-monitoring testing and breath tests, contrasted with the previous finding related to elective endoscopic procedures. On the one hand, it shows that doing these procedures has not been affected with the pandemic, and, on the other hand, it is important to know whether physicians or technicians have implemented preventive measures to run these procedures, such as using PPE. On April 1, the Joint American GI Society issued a statement about delaying all elective procedures during COVID-19 including not only elective endoscopic procedures, as previously stated, but also motility procedures such as esophageal manometries, ambulatory pH-testing, wireless motility capsule testing, and anorectal manometry.[18] Only recently, there have been recommendations for esophageal physiological testing,[23] and the American Neurogastroenterology and Motility Society organized a Task Force for developing guidance strategies with regard to reopening of motility laboratories.[24] In the first one, patients are triaged in emergent/urgent procedures (ie, those related to high-resolution manometry for achalasia), semi-urgent situations (ie, dysphagia and chest pain impacting quality of life without imaging abnormalities), and elective testing (related to gastroesophageal reflux, belching/rumination), which can be postponed.[23] In addition, operating procedures for laboratory safety practices and PPE, are also recommended.[23] The American Neurogastroenterology and Motility Society Task Force guidelines also included stratifying the urgency of motility physiological procedures, screening for COVID-19, 48 hours before the procedures, optimizing personal PPE utilization, and cleaning and preparing the motility laboratory space.[24] Notwithstanding, they recommended to adhere to each state of the American union.[24] Currently, there are no guidelines for physiology testing in Latin America, only specific Hospital guidelines or those implemented in private motility laboratories. In the meantime, it would be wise to follow the above mention guidelines and adhere to every country's policy.

As for Telemedicine, it is now universally accepted to use this approach for consultation in many fields of medicine,[25] even in gastroenterology.[26] The Partners HealthCare system in Boston, reported that Telemedicine visits increased from 2000 in February 2020 to a quarter of a million 2 months later due to the COVID-19 pandemic,[27] while in in NYU Langone in New York urgent care visits increased by 135% and nonurgent care visits by 4345%.[25] A survey in Italy, during the current pandemic among celiac patients, reported that they accepted Telemedicine, were happy with these remote consultations, and even requested them.[26] In the United States, Medicare and insurance companies did not pay for phone calls, and those were bundled into the office visit payment. However, with the COVID-19 pandemic, this has now changed, and payers are reimbursing for telephone calls at the same rate as an office visit.[27] In the field of Neurogastroenterology, especially for patients with FGIDs/DGBI who need close follow-ups to adjust treatments, such as neuromodulators,[28] as well as psychological support,[29] Telemedicine becomes a good approach. Furthermore, in patients with risk factors for infection, it is also a measure to avoid exposing them to nosocomial COVID-19 infection. In Mexico, for example, we have found that older age (above 60 y old), and comorbidities such as obesity and diabetes, increases the risk both for infection and hospitalization for COVID-19.[30] Diabetes is a good example of a disease related to motility abnormalities such as gastroparesis that require permanent follow-up[31]; thus, Telemedicine is a good alternative in these patients as well. In the current survey in Latin America, the majority of Neurogastroenterologists were using this remote system for consultation, and patients accepted it. However, the fact that only two thirds were being remunerated for this clinical approach is a problem. In the region, it is common that patients do phone consultations that can be or not related to an office visit, without paying any honorarium. Furthermore, in some countries in the region, local regulations and policies do not allow for phone calls or digital platforms visits to be paid, which is a need to be implemented. The COVID-19 pandemic has taken us many years into the future in this regard. Thus, regulations and attitude toward paying for remote consultations, need to change. Moreover, there are administrative and technical personnel, as well as health care professional associates, whose income depends on these already disrupted practices. In fact, almost 45% of the physicians herein surveyed had to decrease the salaries of their associates.

The last issue to discuss is the involvement of Neurogastroenterologists in the COVID-19 pandemic. None of the physicians surveyed had been infected with SARS-CoV-2; however, more than half answered having a colleague infected. The second one, although being an indirect measure, seems very high. In fact, in other parts of the world, despite reporting high rates of health care workers being infected with COVID-19, the figures are lower, such as 22% in Asia[32] and 9.6% of physicians in Italy.[33] Therefore, further research into health care workers' infection rates in Latin America, is needed.

An important proportion of these Latin American Gastroenterologists had been mobilized to COVID-19 wards, as has been carried out in other countries, and one in every 4 physicians herein surveyed had already diagnosed COVID-19 cases. The latter one is an important fact considering that gastrointestinal symptoms, especially diarrhea, are now recognized as clinical manifestations of COVID-19,[34] and they can be the first symptoms to be present even before fever or shortness of breath, or be the only ones present.[35,36] Furthermore, the psychological distress reported by the physicians is similar to other studies in relation to these pandemics.[37] However, in the current study, feeling anxious and/or depressed was related to the decline in their clinical practices, probably in relation to a negative impact on their revenues.

There are some limitations of this survey that we need to acknowledge. First, the sample is small, especially representations from countries other than Colombia, Mexico, and Brazil. In fact, despite being a small society, one of the largest groups of the *SLNG*'s membership is from Argentina, and it was one of the least represented countries in this survey. In contrast, to the best of our knowledge, this is the first report about the impact of COVID-19 on clinical practices in Latin America, but probably reflects what is happening in other parts of the world that have been affected by the current pandemic. Second, the results urgently call for issuing local guidelines to safely conduct physiology testing in the region. Third, although not included in the analysis between countries, we carefully looked within the group of other countries finding that only 1 of 3 physicians from Chile who participated in the survey, had been reimbursed for Telemedicine. Even though no conclusions can be drawn from the rest of the countries in the region, regulations and policies with regard to the practice of Telemedicine, and physician reimbursement, are urgently needed. Finally, no objective instruments were used to measure psychological distress among the surveyed Neurogastroenterologists, but their subjective reports of anxiety and depression is an important issue to address.

In conclusion, in the current survey among Neurogastroenterologists in Latin America, all reported a negative impact of the COVID-19 pandemic on their clinical practices. In the majority, the decline in their practice ranged between 61% and 100%, leaving some out of business. The reasons for the above were patients' fears for getting infected while consulting or undergoing diagnostic procedures, country's lockdown, and physician's decision to prevent infection spread. Notwithstanding, most of the motility laboratories were not shut down, despite lacking local guidelines for these procedures. Furthermore, Telemedicine had been implemented by the majority; however, only a third of them were being paid for the service, mainly because of limitations by local regulations and policies. Finally, these Gastroenterologists had already been involved in diagnosing patients with COVID-19, and a group had been mobilized to COVID-19 wards. In addition, more than half reported having colleagues test positive for the virus. Finally, psychological distress was very commonly reported, probably in relation to the meaningful decrease in their clinical practices.

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