EDUCATION

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Virtual Education is the Need of the Hour for the Global Gastroenterology Community: A Survey of Leaders of Professional Gastroenterology Organizations

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ABSTRACT

Background & Aims: Since the onset of the Coronavirus disease 2019 (COVID-19) pandemic, there has been a significant opportunity to leverage virtual platforms for communication and dissemination of knowledge. An online survey was conducted to examine the viewpoints of World Gastroenterology Organization (WGO) leaders concerning the necessity, primary priority areas, and implementation strategies for a virtual global gastroenterology educational program.

Methods: We conducted a survey of leaders of WGO member societies to assess their opinions on creating opportunities for global education using virtual platforms, identifying practical implementation steps and priority educational areas.

Results: Responses were obtained from 57/117 (48.7%) contacted leaders with 56/57 (98.2%) identifying such a need. Five mutually exclusive priority educational topics were proposed in the survey: clinical gastroenterology, endoscopy, nutritional support, research methodology, and professional development. Overall, most participants prioritized clinical gastroenterology (45/57; 78.9%) and endoscopy/hand skills (27/57; 47.3%) as educational topics to be addressed by the virtual global gastroenterology educational program. A majority of WGO member society leaders surveyed favored monthly teaching activities (33/57; 57.8%), ideally carried out between 1500-2100 local time (31/57; 54.3%), ideally with no administrative fees (47/57; 82.4%).

Conclusions: This truly global survey of WGO member societies achieved a good response rate and provides important insights into the need for and scope of future virtual education programs under the aegis of the WGO.

Key words: survey – virtual education – global – gastroenterology – hepatology.

Abbreviations: COVID-19: Coronavirus disease 2019; MASLD: metabolic-dysfunction associated steatotic liver disease; MOOC: massive open online course; NAFLD: non-alcoholic fatty liver disease; WGO: World Gastroenterology Organization.

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INTRODUCTION

The World Gastroenterology Organization (WGO) is a global organization of 119 national or regional member societies and associations of gastroenterologists representing nearly 60,000 individual members worldwide [1]. A primary goal of the WGO is to advocate for the optimal care of patients with gastrointestinal and liver disorders, facilitated by healthcare professionals globally, through the provision of high-quality and easily accessible education. In recent times, and especially since the onset of the Coronavirus disease 2019 (COVID-19) pandemic, there has been a significant opportunity to leverage virtual platforms for communication and dissemination of knowledge [2]. Delivering educational activities through virtual platforms could, therefore, represent a viable strategy aligned with WGO objectives. Consequently, our aim was to evaluate the perspectives of WGO member society leaders concerning the necessity and potential priority areas of a virtual global gastroenterology education program, including specific operational aspects of any subsequent implementation.

METHODS

An online survey was conducted to examine the viewpoints of WGO member society leaders concerning the necessity, primary priority areas, and implementation strategies for

a virtual global gastroenterology educational program. Initially, two authors (G.M., A.B.) identified key domains related to potential areas of interest for inclusion in the virtual education program. Any discrepancies were resolved through group discussions with WGO executives and members of its clinical research committee. The survey questions addressed seven broad areas that included two operational topics: 1) the need for a global gastroenterology educational program, and 2) the methods for ensuring an effective and adapted implementation of such a program. In addition, five priority educational topics were proposed: 1) clinical gastroenterology, 2) endoscopy (cognitive and skills education), and GI manometry, 3) nutritional support, 4) research methodology, and 5) professional development (leadership, communication, and teaching skills). Subdomains of these topics were identified by reviewing academic programmes of various conferences, textbooks, and the authors' own experiences. We subsequently developed a questionnaire containing 15 questions based on these seven areas of interest and respective subdomains (modified abbreviated version in Table I, with the full survey available as Supplemental material). All potential responses were graded using a 5-point Likert scale relevant to each question ranging from strongly agree to strongly disagree. Prior to survey distribution, the questionnaire was administered to a group of 10 gastroenterologists, members of the WGO clinical research committee, for pilot testing and was subsequently modified to optimize clarity and ease of response with subsequent approval for diffusion by WGO and its clinical research committee. The final version of the questionnaire was then circulated to the Presidents of the 117 national or regional societies and associations of Gastroenterology that were members of WGO at the time of the study (https://www.worldgastroenterology.org). Following an initial e-mail query to potential respondents, three additional weekly reminders were then sent to those who did not answer the previous requests.

Anonymized responses (in keeping with WGO policy) were collected and summarized as categorical data in the form of percentages, stratified by priority ratings. They were graphically displayed using bar charts. All data were analysed using R version 2.13.0, (R Foundation for Statistical Computing, Vienna, Austria, 2008). In addition to the base packages in R, tidyverse and readxl packages were used.

RESULTS

Responses were obtained from 57 of 117 (48.7%) invited leaders from respective WGO member societies.

Operational Topics

Need for virtual educational programs

An overwhelming majority of survey responders, 56/57 (98.2%), either agreed or strongly agreed that the WGO should utilize virtual platforms to launch a global educational program in gastroenterology.

Methods of implementation

Regarding the frequency of online educational activities, the largest proportion of respondents expressed their preference for monthly sessions (33/57; 57.9%), while a minority (12/57; 21.0%) favoured bi-weekly sessions. Most respondents suggested scheduling sessions between local times of 1700 hours and 2100 hours (31/57; 54.4%). Respondents (57/57; 100%) unanimously agreed to widely disseminating the existence and proposed schedule of such a program to their respective members. Lastly, a majority (47/57; 82.4%) indicated a preference for no course fees. However, among those suggesting a course fee, the median acceptable fee was $10 USD per session (3/5; 60%).

Table I. Survey questionnaire topics and subdomains

Operational topics	Subdomain Questions (number of choices, if applicable)
Need for virtual educational programs:	Taking advantage of the virtual platform technology, should the global gastroenterology community seek new initiatives in global education in Gastroenterology (GI)?
Methods of implementation:	- If such a program is created, will you disseminate the relevant information to your members? [5] - How frequently, should such sessions be held? [4] - And at what time of the day? - Should there be a course fee? [2] If yes, how much would you deem an acceptable amount for such an educational event?
Priority Educational topics	If you agree to a global education initiative, which areas would you prioritize? [5]
Clinical Gastroenterology	Amongst topics in clinical gastroenterology, which topic(s) would you prioritize? [18]
Endoscopy (cognitive and skills education), and GI manometry	- What areas should be included in endoscopy hand skills teaching using an at-distance teaching platform? [8] - What methods for training in endoscopy, including hand skills acquisition, would you favour using such an at-distance teaching platform [4] - Do you think training in GI manometry should be addressed as part of a global gastroenterology education initiative? If so, what method(s) would you favour? [3]
Nutritional Support	- Do you think that nutrition related topics should be part of a global gastroenterology education initiative? [5] - If so, which topics should be included? [9]
Research Methodology	- Do you agree that a global gastroenterology education initiative should include teaching in research methodology? - If so, which topics should be included? [13]
Professional Development (leadership, communication, and teaching skills)	- Should a global gastroenterology education initiative include topics on professional development? - If so, which topics should be included? [3]

Priority educational topics

Respondents were in relative agreement when prioritizing educational content topics for a potential virtual global educational program in gastroenterology. A majority (45/57; 78.9%) rated clinical gastroenterology as an extremely high priority, followed by endoscopy (cognitive and skills education), and gastrointestinal manometry (27/57; 47.3%). Teaching in research methodology (16/57; 28%) and professional development (leadership 15/57; 26% and teaching skills 18/57; 32%) were perceived as having similar priority levels (Fig. 1A).

Clinical Gastroenterology

Among 18 subdomains within clinical gastroenterology, digestive cancers were rated as the highest priority subdomain topic surveyed with 32/57 (56.1%) responders characterizing it as an extremely high priority. These were followed by gastrointestinal emergencies and non-alcoholic fatty liver disease (NAFLD), including what is now referred to as metabolic-dysfunction associated steatotic liver disease (MASLD) [3] both receiving 25/57 (43.8%) highest priority votes. Subsequent subdomain education topic prioritization included inflammatory bowel diseases (IBD) (23/57; 40%), gastroesophageal reflux disease (GERD) (21/57; 37%), alcoholic liver disease (21/57; 37%), and cirrhosis (21/57; 35%). In contrast, few prioritized parasitic diseases (3/57; 5.2%) and food/ water-borne diseases (8/57; 14.0%). An intermediate number of respondents attributed a high priority to other topics (Fig. 1B).

Endoscopy (cognitive and skills education), and gastrointestinal manometry

Endoscopic subdomain topic prioritization found a majority of participants desiring education about uniform terminology adoption when describing endoscopically diagnosed lesions (37/57; 64.9%) (Fig. 2A). Regarding the delivery of endoscopic hand skills training, guided video lectures (29/57; 50.8%) and online live demonstrations (26/57; 45.6%) were strongly preferred by respondents (Fig. 2B). Similarly, for gastrointestinal manometry, specific training with online live demonstrations (27/57; 47.3%) and guided video lectures (24/57; 42.1%) were preferred by respondents (Fig. 2C).

Nutritional Support

A majority (53/57: 93%) of participants strongly agreed or agreed that nutrition-related topics should be included in a virtual global educational program in gastroenterology. In particular, respondents designated nutritional-related topics to be an high priority when discussing inflammatory bowel (32/57; 56.5%) and liver related diseases (30/57; 52.6%) (Fig. 3C).

Research Methodology

Regarding research methodology, participants strongly supported the inclusion of teachings in the curriculum on how to formulate and structure a research hypothesis (32/57; 56.1%), as well as how to select and implement an appropriate study design (29/57; 50.8%) (Fig. 3A). Other priority areas identified included instruction on writing an abstract (29/ 57; 50.8%) and writing a scientific paper (26/57; 45.6%) (Fig. 3B).

Professional development

In this topic, all 3 subdomains were similarly favoured with between 84% (48/57) and 95% (54/57) of respondents agreeing very strongly or strongly to have these addressed as part of a virtual global educational program in gastroenterology (Fig. 3C).

DISCUSSION

This survey suggests that leaders of national or regional WGO member societies and associations strongly believe in a concerted global educational program using a virtual platform to optimize dissemination. While there were understandable

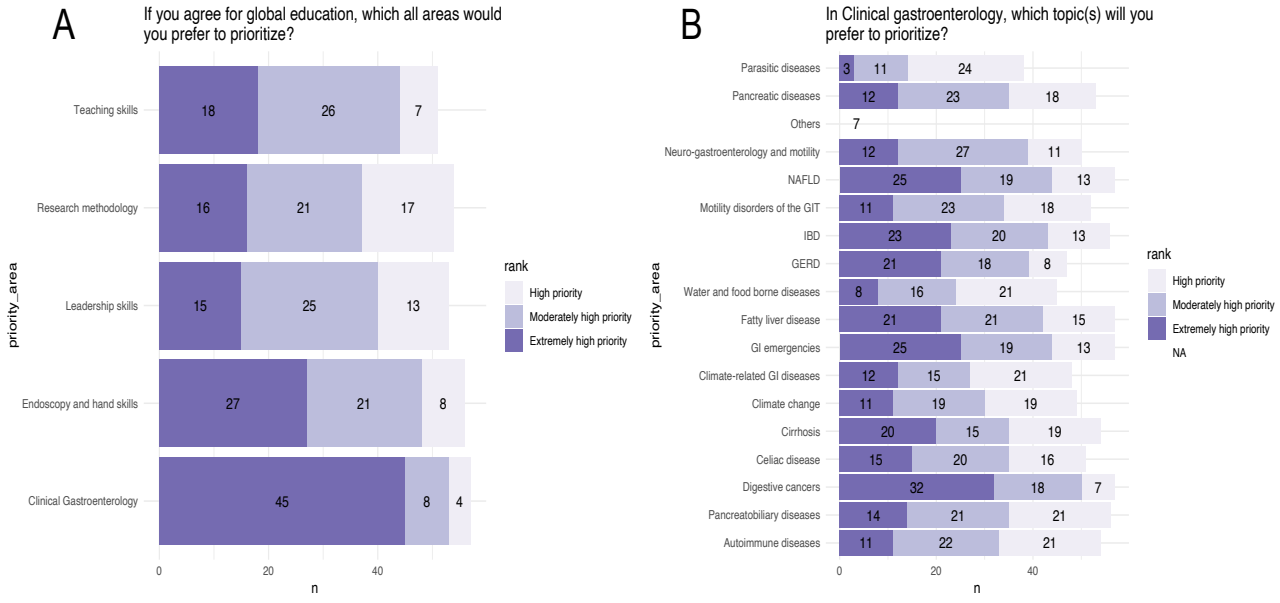

Fig. 1. Priority areas in virtual education overall (A) and within clinical gastroenterology.

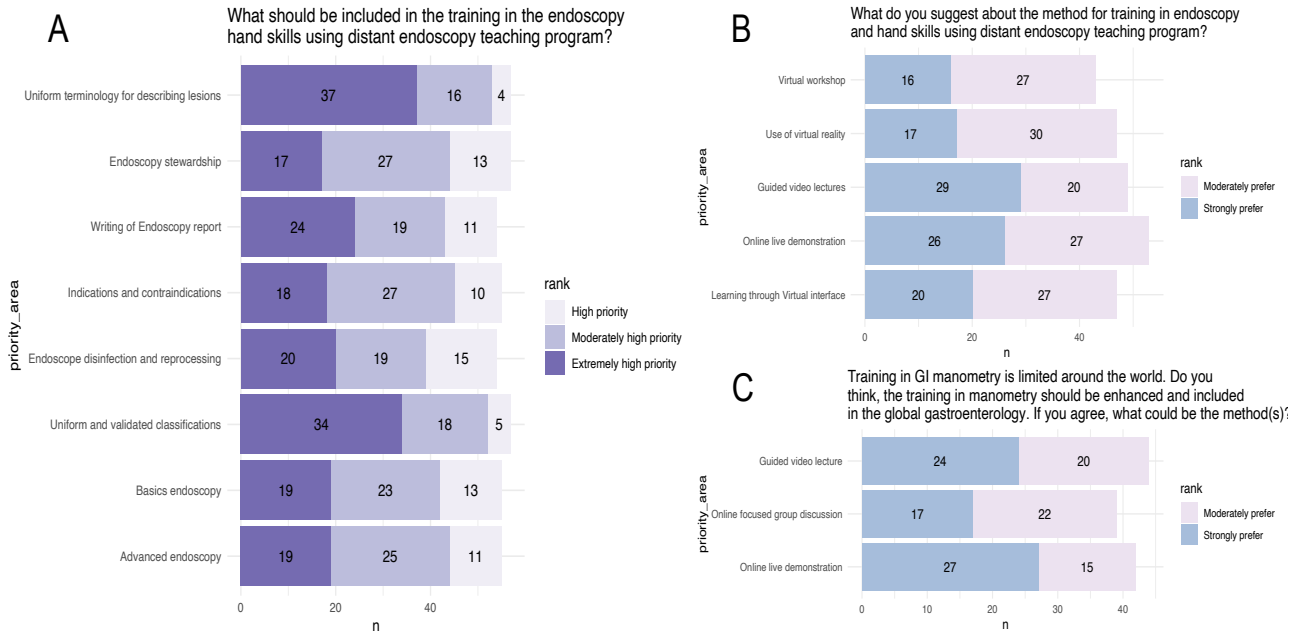

Fig. 2. Priority areas perceived in endoscopy/ hand-skills (A). Preferred methods for teaching endoscopy/ hand skills (B) and GI manometry (C) in virtual education programme.

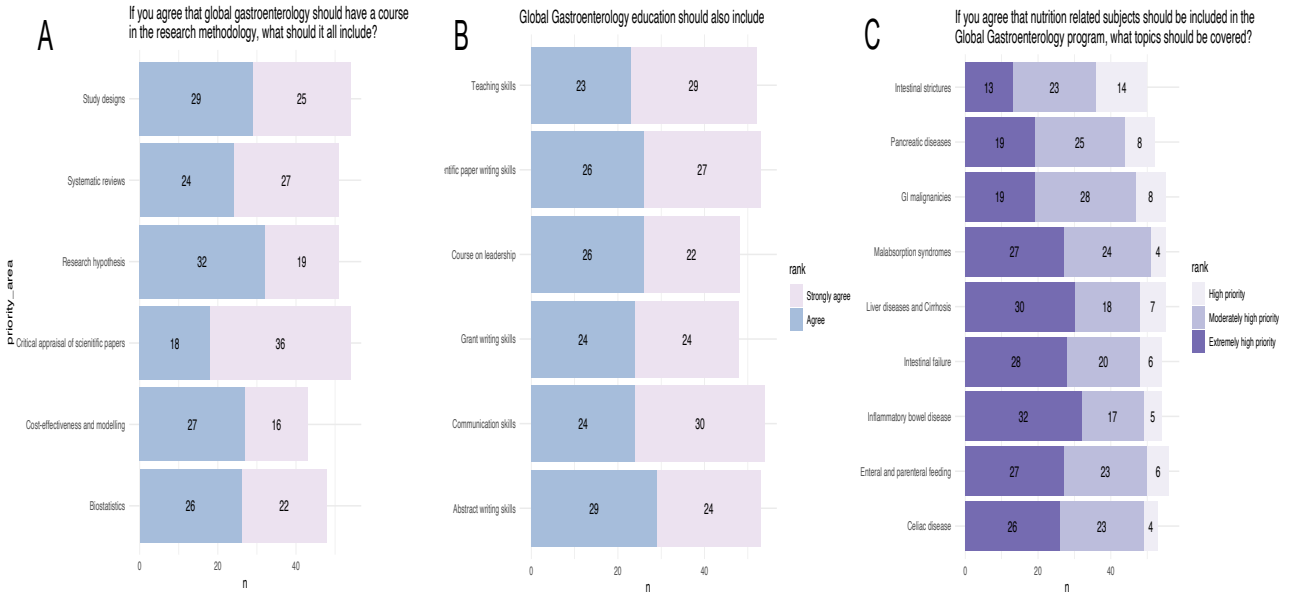

Fig. 3. Priority areas perceived in research methodology (A), additional areas (B) and nutrition (C).

differences in the perceived priority areas by leaders of different member societies of WGO, a majority strongly agreed/ agreed (98.2%) that such a program is needed, with all willing to facilitate its dissemination to their respective society/association members. In addition to defining and prioritizing the educational areas (clinical gastroenterology, endoscopic skills and gastrointestinal manometry, nutrition, research methodology, and professional development), practical insights were obtained regarding implementation. A majority of WGO leaders surveyed favored monthly teaching activities (33/57; 57.8%), ideally carried out between 1700 - 2100 local time (31/57; 54.3%), with no administrative fees (47/57;82.4%).

While opportunities for medical education vary globally [4], knowledge across various medical disciplines has significantly expanded [5]. Trainees in various medical specialties, including gastroenterology, have faced increasing challenges in staying abreast of the latest developments, even within their specific areas of practice [6]. Access to skilled trainers is also limited in developing countries [7], and the lack of resources become more evident during crises, such as during the COVID-19 pandemic [8]. Technology-enhanced learning, including a virtual educational program in gastroenterology, could offer an equitable solution to addressing many of these challenges while meeting members‘ clinical and research needs. By leveraging technology-enhanced learning methods, individuals from diverse

backgrounds can access high-quality and up-to-date education in gastroenterology, thereby breaking down barriers to learning while promoting inclusivity in our global community. Moreover, this approach renders education more accessible and available to individuals, thus paving the way for democratizing education among learners from different backgrounds [9]. As such, the idea of virtual education closely aligns with the core objectives of the WGO [1], and it was not surprising that this survey was favorably received with an above average response rate of 48.7% for such a questionnaire, resulting in 57 societies being represented [10].

With multiple areas of great specific interest identified that include clinical gastroenterology, endoscopy, research methodology, and writing skills, the present survey clearly recognizes a widely perceived need for massive open online courses (MOOCs) – also thus justifying the creation and implementation of such initiatives in all fields of gastroenterology practice. A MOOC is an online course open to anyone without restrictions (free of charge and without a limit to attendance), usually structured around a set of learning goals [11]. While MOOCs have been in existence for at least 2 decades, they have experienced a considerable surge in popularity over the past 3 years, as the COVID-19 pandemic has disrupted the format for educational interventions in all spheres [12]. A number of international and national societies of gastroenterology, including the WGO (https://www.worldgastroenterology.org/education-and-training/educational-programs), already have developed virtual learning programs. Our experience to date with virtual learning on clinical gastroenterology and endoscopy via MOOCs has been favorable. A example of MOOCs has been engagement of large number of learners through the Indian Society of Gastroenterology Masterclass Program [13].

Surveys possess inherent limitations and are susceptible to various forms of bias, including selection bias in respondents. However, nearly 50% of queried societies responded, which constitutes an above average participation rate for surveys [10]. There remains, however, the possibility of desirability bias. This bias occurs when certain responders may select responses perceived as more desirable, even if they may not reflect their actual practices [14].

CONCLUSIONS

Our survey offers valuable insights into areas where future efforts may yield fruitful results. We believe that the observations from this survey will assist WGO in developing a virtual learning program in the future.

Conflicts of interest: None to declare.

Authors' contribution: G.K.M. and A.N.B conceived and designed the study. All the authors collected analysed data. G.K.M. drafted the manuscript. A.N.B. revised the manuscript critically for important scientific data. All the authors read and approved the final version of the manuscript.

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