



Life Long Learning Preferences of General Surgeons after Covid-19 : Hybrid Model

Genel Cerrahların Covid-19 Sonrasında Yaşam Boyu Öğrenme Tercihleri : Hibrit Model

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Abstract

- Aim** For a surgeon during his professional career; Increasing their knowledge and experience, improving their professional skills and sharing their knowledge and experience is a necessity rather than a choice. The COVID-19 pandemic has revealed new choices in the concept of lifelong learning, with virtual meetings scheduled by surgeons using videoconferencing applications over the internet. In this study, we evaluated the compliance of general surgeons to webinars during the COVID-19 outbreak and their future training expectations with a questionnaire
- Material and Method** A questionnaire of 20 questions was prepared. The questionnaire was administered questions without aiming to obtain the personal information of the participants. . This survey was announced on the social media application Twitter. Survey questions were answered by 108 participants.
- Results** In the survey participated by surgeons, we concluded that short-term presentations, edited surgery videos and question-answer activities will be preferred more, and webinars held in the evening will be preferred more than those planned at the weekend. During the pandemic, it was determined that surgeons preferred free webinars and attended more national and international meetings compared to the pre-pandemic period. Respondents stated that they would prefer hybrid meetings in the future.
- Conclusion** Considering the results of our social media-mediated survey: there is an intense participation in online seminars by surgeons. We also concluded that in the near future, surgeons will prefer hybrid training models rather than face-to-face training to improve and update themselves.
- Keywords** webinars, online education, covid 19, general surgery

Özet

- Amaç** Bir cerrah için mesleki kariyeri boyunca; bilgi ve görgülerini arttırmak, mesleki becerileri geliştirmek ve bilgi ve tecrübesini paylaşmak bir tercihten çok zorunludur. COVID-19 salgını, cerrahları internet üzerinden video konferans uygulamalarını kullanarak planlanan sanal toplantılar ile hayat boyu öğrenme kavramında yeni tercihler ortaya koydu. Bu çalışmada, genel cerrahların COVID-19 salgını sırasında webinarlara uyumlarını ve gelecekteki eğitim beklentilerini bir anket ile değerlendirdik.
- Gereç ve Yöntem** 20 soruluk bir anket hazırlandı. Anket, katılımcıların kişisel bilgilerini elde etmeyi amaçlamadan sorular yönetildi. . Bu anket sosyal medya uygulaması Twitter üzerinden duyuruldu. Anket soruları 108 katılımcı tarafından yanıtlanmıştır.
- Bulgular** Cerrahların katıldığı ankette kısa süreli sunumların, editlenmiş ameliyat videolarının ve soru-cevap etkinliklerinin daha çok tercih edileceği, akşam saatlerinde düzenlenen webinarların hafta sonu planlanırlara göre daha çok tercih edileceği sonucuna ulaştık. Pandemi sürecinde cerrahların pandemi öncesi sürece göre ücretsiz webinarları tercih ettikleri ve ulusal ve uluslararası toplantılara daha fazla katıldıkları belirlendi. Anketi cevaplayanlar gelecekte hibrit toplantıları tercih edeceklerini belirttiler.
- Sonuç** Sosyal medya aracılı anketimizin sonuçları değerlendirildiğine : cerrahlar tarafından online seminerlere yoğun katılım var. Ayrıca yakın gelecekte, cerrahlar kendilerini geliştirmek ve güncellemek için yüz yüze eğitimden daha çok hibrit eğitim modellerini tercih edecekler, sonucuna ulaştık.
- Anahtar Kelimeler** webinar, online eğitim, covid 19, genel cerrahi

INTRODUCTION

In this pandemic caused by COVID-19, we seem to be in the midst of a post-apocalyptic story published more than 100 years ago. During the pandemic days, we living in an isolated environment, we practice social distancing, obey many pandemic rules. In this dystopian delusion, we have made remote video communication a part of our lives¹. During the pandemic, nearly all medical trainings that previously did not accept laziness were transferred to online platforms that have been undergoing testing for a long time^{2,3}. Sometimes for surgeons, on the same week and the same day, dozens of national/international webinars (online seminars), e-congress, and e-learning meetings overlap, it could be difficult to choose one among them. We believe that webinars that follow very high scientific qualities do not reach the effect they deserve, the number of participants, and their target audience because of incorrect time selections, technical problems, incompatibilities in the presentations, and long and short speech times. In this study, we measured the compliance of general surgeons to the meetings held with a webinar concept and determined the expectations of surgeons from the webinar.

MATERIALS and METHOD

We designed a 20-item questionnaire to gather information about the attitudes and practices of surgeons toward online meeting compliance. The questionnaire was open to the participants for surgeons for 15 days (January 1-15, 2021). The survey focused on webinars. To ensure the participation of surgeons in the survey, an announcement was made on Twitter, a social media microblog application open to the public. The survey questions covered many demographic areas, including age, duration of professional life, continent living in, health institution, academic career level, and surgical interest. For the participants, the average annual number of seminars/congress attended before the pandemic, the number of webinars attended during the pandemic, the national/international level of the webinars followed, the electronic device where the webinars are watched, the environment where the webinars are

watched, how the webinars are watched, the appropriate time period for the webinars were asked. For the webinars themselves, questions such as pricing, whether webinars would be preferred in the post-pandemic period, the presentation methods in webinars, and the planning of future medical meetings were raised. The entire questionnaire was answered via Google Forms, which was announced on Twitter. No identification information (name, sex, exact age, hospital name, city, country) was obtained from the participants. Ethical approval was not required for this research because the survey study was only an evaluation of an e-learning model and only shared in social media application / Twitter to all public. Approval for the survey was received from Turkey's Ministry of Health.

RESULTS

The questionnaire was answered by 108 people within a 15-day period. When the age groups of the respondents were evaluated, the highest participation rate was found to be from the 36–45 age group at 41% (Table 1).

| Age | n (%) |
|-------------|------------|
| 25-35 | 26 (%24) |
| 36-45 | 44(%41) |
| 46-55 | 25 (%23) |
| 56 and over | 13(%12) |
| Total | 108 (%100) |

In response to the question regarding the professional background of the survey participants, surgeons with 5–10 years of professional experience had the highest participation rate at 33%, followed by surgeons with 11–20 years of experience at 30% (Table 2).

Tablo 2. Distribution of respondents experience in professional (year)

| Age | n (%) |
|--------------------|-----------|
| 0-4 | 14(%13) |
| 5-10 | 36(%33) |
| 11-20 | 32(%30) |
| Over than 20 years | 26(%24) |
| Total | 108(%100) |

In terms of geographical distribution, the highest participation was by respondents from the European continent with 58.3%, followed by respondents from Asia with 17.6%, North America with 11.1%, South America with 10.2%, and Africa with 2.8%. In the evaluation of the hospitals and centers where the respondents worked, the highest participation was from respondents working in university hospitals and training and research hospitals (50.5%). In second place were surgeons working in state hospitals (31.8%), followed by those working in private health institutions (17.7%).

When the academic levels of the participants were evaluated, 54.6% were found to be consultant general surgeons, 13% were general surgery residents, and 32.4% were on academic duty.

Regarding the surgical interests of the respondents, 53.3% of respondents were in gastrointestinal surgery-colorectal surgery, 14% in breast-endocrine surgery, 11% in hepato-pancreato-biliary surgery, and 4.7% in trauma surgery.

When the average number of seminars, congresses, and symposiums attended in a year by the participants before the pandemic was examined, it was found that 62% attended 1–4 meetings, 23.1% attended 5–10 meetings, and 8.3% attended more than 10 meetings. Only 6.5% of the participants stated that they have never attended a meeting. During the pandemic period, 42.6% of the respondents stated that they participated in more than 10 webinars, and 27.8% stated that they participated in between 5 and 10

webinars (Table 3).

Tablo 3. Distribution of respondents attend meetings in a year before pandemic and during pandemic

| | Before pandemic n (%) | During pandemic n (%) |
|--------------|-----------------------|-----------------------|
| None | 7(%6,5) | 4(%3,7) |
| 1-4 | 67(%62,1) | 28(%25,9) |
| 5-10 | 25(%23,1) | 30(%27,8) |
| >10 | 9(%8,3) | 46(%42,6) |
| Total | 108(%100) | 108(%100) |

A total 80.4% (n: 86) of participants reported that they mostly followed national webinars, 72% (n: 77) followed international webinars, and 30.8%(n:33) followed regional meetings. Moreover, 81.1% and 45.3% of the participants followed the webinars on their PC and their smartphone, respectively, and 79.4% followed the webinars from home. Hospital–work office utilization rate was 41.1%, and the rate of following up with colleagues was 6%. A very small-number of participants (2.8%) reported that they followed webinars during sports and while walking.

When asked how the participants were aware of the webinars, 75% reported learning about the webinars via email, 73.1% via social media, and 41.7% through their colleagues. A total of 25.5% of the participants followed webinars on weekends while 9.4% followed webinars during working hours.

When the participants were asked if they paid for the webinar, 23,6% reported that they paid while 76,4% did not pay at all. In addition, 54.6% of the participants stated that webinars should be free of charge, and 21.3% think that symbolic payments must be made to attract serious webinars. A total 5.7% of the survey participants stated that they can pay the specified fee for the webinar related to their interest, and 8.3% stated that they can seek support in this regard.

In terms of the presentation time and techniques of webinars, the rate of participants who stated that the pres-

entations should be shorter than face-to-face meetings was 58.3% while 6.5% reported that they could be longer. The survey revealed that 71.3% of the participants preferred presentations with edited surgical videos, 60.2% stated that Q&A interactive participation would be appropriate, and 43.5% find live surgery presentations interesting. A majority of participants (75.7%) would also prefer watching recorded webinars offline.

For questions on how to implement webinars in the post-pandemic period, 66.7% of the participants preferred both face-to-face and online meetings in accordance with their work and life practice while 12% preferred webinars. Furthermore, 70.8% of the participants preferred that congresses to be held in the future be organized as a hybrid, that is, both virtual and conventional. Only 4.7% of the respondents preferred virtual congresses.

DISCUSSION

We spent 2020 under the destructive waves of the pandemic, from public health and the economy to education and all aspects of social life. Hundreds, or even thousands, of planned regional, national, and international events have been postponed or canceled⁴.

At the moment when we felt the light at the end of the tunnel, news of the COVID-19 mutation came to the fore, causing us to lose hope and raising concerns about promising advances and vaccination studies⁵. In the near future—in the new normal—even if the impact of the pandemic diminishes, we will still feel the possible psychosocial and medical effects of this time at both the personal and social levels. Medical education maintains its importance not only as a process that continues and ends in a certain period but also as lifelong learning for health professionals at every moment of their professional career⁶. Owing to the pandemic, the concept of distance education has been implemented in all health education institutions but without determining the precise learning models, clarifying the targeted results, and providing the necessary scientific

evidence. Thus, integrating e-learning into the education curriculum of health sciences and putting it at the center of learning have become more important in this process⁷.

Medical education has adapted faster to online education (e-learning) compared to undergraduate education covering politics and social sciences². E-learning can never completely replace conventional learning techniques, but it can play an active role in increasing the effectiveness of the learning objectives and the curriculum as well as using the attention of students at certain points⁸. Survey is a common tool for collecting data for information analysis. Physicians often use questionnaires to identify trends, particularly in their specialty. However, getting answers to such questionnaires from within the medical community is sometimes difficult. With internet-based surveys, it is possible to reach the target audience and obtain more respondents to the survey⁹. The announcement made on Twitter made it possible to reach a wider community and attract their attention¹⁰.

Among those who participated (n: 108) in the survey, which was announced only on Twitter without using e-mail, telephone, or any other communication device, the response rates for surgeons in the age groups 36–45 and over 46 years reached 40.7% and 35%, respectively. The 35% response rate for those over 46 years is a good example of the prevalence of social media usage regardless of age. While 75% of participants reported being aware of webinars via e-mail, a close percentage (73.1%) were informed by social media announcements. This result is an important indicator showing that surgeons use social media intensely and effectively^{11,12}.

Before the pandemic, attending a face-to-face congress or seminar was difficult because of high payments and the lengthy time required. This situation also emerged when the average number of training meetings attended before the pandemic was compared with the webinars attended after the pandemic among the respondents. The technical

convenience of participating in webinars increased the number of participants and the interest in postgraduate education (Table 3). Webinars, which are cheaper and less time-consuming than conventional meetings for both remediation committees and participants, provide access to more health professionals and quality education in terms of lifelong learning².

In a study involving pharmacists, it was reported that webinars scheduled in the evening are less preferred as this is the time they spend with their families. However, in our study, most of the respondents preferred evening webinars. In contrast to literature, general surgeons in this survey tend to attend webinars in the evening. Participants stated that they generally watched webinars (79.4%) at home. This high rate may be a result of the social distancing and isolation measures brought about by the pandemic¹³.

The majority of respondents (76.4%) stated that they did not pay for the webinars they attended. Half of the participants stated that webinars should be free of charge. Researchers often view conferences and other face-to-face meetings as an investment in their future. Conferences are valuable opportunities to receive feedback on a person's achievements and work as well as build connections with potential colleagues and collaborators from around the world. In professional life, it is very important to participate in conferences and congresses to improve one's network, with the idea that it will contribute to advances in their career. However, the general cost of such training has always been a problem for scientists. Clearly, online meetings are cheaper than face-to-face meetings¹⁴.

After numerous meetings were canceled due to the pandemic, scientists in developed countries with advanced internet facilities easily adapted to the new processes. However, scientists in countries with more limited opportunities require a different approach owing to their already limited support and personal budgets. In our assessment based on continents, the highest turnouts were from Eu-

rope and America (North and South) while the lowest ones were from Africa and Asia. We think that this inequality of opportunity causes this situation. The fact that 46% of the world population does not have an internet connection suggests that different formats and supports are needed for scientists in countries where there is no safe and fast internet access^{15,16}.

There are simple but effective rules to make webinars more effective and targeted. In the question about the duration of speeches in webinars, 58.3% of the survey participants opted for shorter speeches instead of face-to-face activities, similar to the result in the literature. Even professional presentations with too much detail will naturally lead to a decrease in or loss of audience interest¹⁷. When asked which presentation techniques they deem effective to get the maximum benefit from webinars, 71.3% of the general surgeons preferred edited surgical operation videos, 60.2% indicated interactive Q&A sections, and 43.5% preferred live surgical videos. Clearly, the presentations that encourage participants to ask questions offer more convenient and appealing trainings for the followers. Nevertheless, it is also obvious that it will be easier for participants to receive questions in written form from the online platform, especially in international meetings where different languages are spoken. Additionally, 75% of the surgeons participating in the survey stated that they would prefer to watch the recordings of the webinars later. Regardless of the number of attendees on the live webinar, we must remember that once the recording is shared, it will act as an online resource and reach a much wider audience over time¹⁷.

Instead of canceling perhaps thousands of face-to-face scientific meetings, online meetings can be organized. The ease of attending online meetings, the absence of travel obligations, and the absence of serious changes in the working schedule and family life of attendees may mean that the interest in online meetings will continue after the pandemic. In response to the 20th question in the ques-

tionnaire, 70.8% of the attendees want large-scale medical congresses to be held as hybrid. In an article about online meetings, four times more participants followed the meeting online compared with the number of participants who registered for the meeting when it was planned to be held face to face (14,18). The social media application open to the whole public was announced on Twitter. Although the number of participants in the survey is low, it is the first study in the literature to examine general surgeons' view of online meetings.

CONCLUSION

The number of participants in the survey is low but it is the first study in the literature to examine general surgeons' view of online meetings and the future expectation. Webinars will remain up-to-date not only during the pandemic period but also as an effective learning method for lifelong learning in the future. The survey results reveal that webinars with shorter targeted talks and video surgical presentations attract as much interest as conventional meetings. Surgeons prefer to attend webinars in the evening using a computer connection from their homes and generally prefer webinars to be free. Moreover, they believe that hybrid meetings and interactions via social media will be at the forefront of medical education in the future.

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