Özgün Araştırma / Original Article

Jinekoloji - Obstetrik ve Neonatoloji Tıp Dergisi
The Journal of Gynecology - Obstetrics and Neonatology

DOI: 10.38136/jgon.1341925

Who Are Anesthesiologists After The Covid-19 Pandemic? Evaluation Of Public Awareness About Who Are Anesthesiologists?

Covid-19 Pandemi Sonrasinda Anestezistler Kimdir? Anestezistler Hakkinda Halkin Bilinçlilik Durumunun Değerlendirilmesi

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ÖZ

Amaç: Coronavirüs 2019 (COVID-19) hastalığından önce yapılan çalışmalarda, anestezistlerin ameliyathane içinde ve dışında görev ve rollerinin halk tarafından tam olarak bilinmediği görülmüştür. Bu çalışmada amacımız Türkiye'de COVID-19 pandemi sonrasında halkın gözünden anestezistlerin görevlerinin bilinip bilinmediği ölçülecektir.

Gereç ve yöntem: Çalışmada, 24 soru içeren bir anket, birçok farklı online platformlarla 16 yaşından büyük ve herhangi bir sağlık sektörüyle ilgisi olmayan halka sorulacaktır.

Bulgular: 2222 kişi anketi cevapladı ve yalnızca %37,6 'sı anesteziolojistlerin yoğun bakımda hasta takip ettiğini bilmiş ve ayrıca %68,4 cevaplayıcı ise anesteziyolojinin bir tıbbi uzmanlık olduğunu bilmiştir. %82,1 cevaplayıcı ise pandemi sırasında hastalarının hangi branş hekimi tarafından yoğun bakımda takip edildiğini bilememiştir. Cevaplayanların %59,9 gibi büyük bir kısmı COVID-19 pandemi sonrasında anesteziyolojistlerin görevleri hakkında bir düşüncelerinde bir değişiklik olmadığını bildirmişlerdir.

Sonuç: Çalışma anket cevaplayıcıları arasında eğitim seviyesi arttıkça, sağlık sistemi hakkında

daha çok bilgi sahibi olunduğunu ve Türkiye'de anesteziyolojistlerin görevlerinin pandemi sonrasında halen anlaşılamadığı görülmüştür. Bu çalışma, anesteziyolojistlerin görevlerinin halk tarafından daha iyi bilinmesi için daha fazla çalışma yapılması gerektiği gösterilmiştir.

Anahtar kelimeler: COVID-19, SARS-CoV-2, anestezi, anesteziyolojist, yoğun bakım, ağrı

ABSTRACT

Aim: Previous research has demonstrated that the general perception of the expertise and responsibilities of anesthesiologists, both in and out of the operating room, is unclear, before the onset of COVID-19. This study aims to evaluate the perception of the public regarding the role of anesthesiologists after the COVID-19 pandemic in Turkey.

Materials and Methods: For this study, an online survey was conducted using a random selection method across various online platforms. The survey was directed to individuals who were not associated with the healthcare industry or any medical activity and were 16 years or older. The survey consisted of 24 questions. The questionnaire is divided into three parts. The first part collects data on demographics. The second part assesses knowledge related to anesthesia procedures. The third section emphasizes information regarding the role of the anesthesiologist.

Results: The questionnaire was completed by 2222 participants, and only 37.6% of them were aware that anesthesiologists also follow patients in intensive care. Regarding the COVID-19 pandemic, 82.1% of the respondents were uncertain about which physician was in charge of treating patients in the intensive care unit (ICU). The fact that anesthesiologists are medical specialists was known to only 68.4% of the participants. About 59.9% of the participants did not observe any change in their perception of the anesthesiologist's role after the onset of the COVID-19 pandemic.

Conclusion: The study concluded that even though participants had higher educational levels and there was increased public awareness of the healthcare industry during the pandemic, the Turkish public still held inaccurate perceptions regarding the role of anesthesiologists. Efforts should be made to better inform the public about the roles of anesthesiologists.

Keywords: COVID-19, SARS-CoV-2, anesthesia, anesthesiologist, intensive care unit, pain,

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Başvuru tarihi: 12/08/2023
Kabul tarihi: 17/08/2023

INTRODUCTION

William T. G. Morton administered anesthesia publicly for the first time in 1846. Anesthesiology introduced itself to the non-medical world at the 1939 New York World's Fair (1). Anesthesiology was recognised as a specialty in Turkey in 1956. Anesthesia and anesthesiology made significant progress thereafter and evolved into one of the major branches of medicine. Currently, anesthesiologists have critical responsibilities both in the intensive care units, pain clinics, and operating rooms.

Surveys conducted in the past 25 years have shown that the percentage of patients who were aware of the anesthesiologist's role in the medical field and the anesthesia procedure varied from 50 to 95%.

The anesthesiologist's leadership in the intensive care units during the COVID-19 pandemic was recognized. However, in a pre-pandemic study, the role of anesthetists in the ICU was reported to be 53.4%, while another study found that only 13.5% viewed anesthesiologists as being involved in the management of critically ill patients (13-14). In yet another study conducted in Turkey by Ezgi et al. (15), 37.4% of the patients were aware of the anesthesiologist's role in the ICU.

After all these studies, increasing awareness of the role of anaesthetists can be achieved through enhanced patient-physician communication and media coverage of their responsibilities. Following intensive care treatment of many patients and the contribution of numerous anaesthetists during the war, with media statements by authorized doctors and everyone learning the word 'intubated', we sought to explore whether the responsibilities and duties of the 'secret hero' anaesthetist had improved in the eyes of the public for the first time since the COVID-19 pandemic.

This study aimed to evaluate public perception of the role of anesthesiologists in Turkey after the COVID-19 pandemWe conducted a prospective, cross-sectional survey between February and April 2022. The Ankara City Hospital Ethical Committee (E1-21-2118) and Clinical Trials NCT05741320 approved the study. Inclusion criteria for the study were individuals aged 16 or above with no involvement in the healthcare or medical professions.

The study's size was determined by reviewing existing data, as is common practice. The questionnaire was modelled on previous research to enable result comparison (10).

We prepared a questionnaire to survey the public about COVID-19, including 5 questions based on current literature (see Appendix). The questionnaire was posted on the Google Survey platform. We randomly distributed the link to the form (https://forms.gle/WuYuDjUG7PDreJyr5) via email and social media platforms.

The questionnaire consists of three parts: the first part contains demographic data, including questions about sex, age, education, occupation and previous hospital, surgical and anaesthetic experience. The second part consisted of questions that tested the knowledge of anesthesia procedures and required identification of the anesthesiologist, including their place of work. What are the responsibilities of anesthesiologists after surgery? And the respondents had to answer with either 'yes', 'no', or 'I don't know.' The final section of the questionnaire analysed COVID-19 and ICU follow-up experiences. Participants were asked about their infection status, if they had been hospitalized in an ICU due to COVID-19, and if they knew the specialist who had treated them in the ICU.

Participants completed the questionnaires online, and the responses were recorded in the Google Survey database for analysis. The data is presented as numbers and percentages.

METHOD

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RESULTS

he questionnaire was responded to by 2222 individuals, among whom 73.5% were female and 26.5% male. 83.3% of the people belonged to the age group 30-64 years; 12.1% belonged to the age group 18-29 years; and 4.6% were older than 65 years. The study found that 76.7% of participants held a university degree, and 40.2% were employed in the private sector. (Table 1)

Table1: Demographic data of respondents

Gender (Male/Female, %)	26.5/ 73.5
Age (18-29/ 30-64/ 65) (%)	12.1/ 83.3 /4.6
Previous anesthesia (%)	
No	18.6
Yes	81.4
Education (%)	
Primary	1
Secondary	2
High school	20.3
University	76.7

A total of 74.4% of the participants had previous hospitalization experience, with 73.4% of the participants having undergone surgery before. Anesthesia history was reported by 81.4% of the participants, with 79.9% of them having experienced general anesthesia before.

In 68.4% of respondents, the anaesthetist was the person who administered the anaesthesia and in 35% of cases, the anaesthesia technician was the person who administered the anaesthesia. When asked, "Who is an anesthesiologist?" Out of the respondents, 71.2% were identified as anesthesiologists, 4.5% as someone in the hospital trained as anesthesiologist, 4.5% as nurses and 3.7% as unqualified doctors.

Regarding the anesthesiologist's work environment, 98.8% of the respondents mentioned the operating room, while only 1.2% were uncertain. When asked about the duties of an anaesthetist beyond the operating room, only 37.6% of the respondents were aware of their responsibility for patients in the ICU, while 24.7% were unaware. A total of 46.5% of respondents answered "yes" when asked if the anaesthetist was responsible for post-operative pain management in the post-operative care unit.

When asked about the duties and responsibilities of the anaesthesiologist during the operation, 97.8% of responders answered as follows: to follow the patient's awareness and consciousness. During surgery, 68.5% of respondents stated that the anaesthetist controls blood pressure and heart rate; 22.8% estimated and transfused serum and blood during surgery; 44.8% replied that the anaesthetist does nothing; 32.4% replied that they don't know. During surgery, 87.2% of the respondents indicated that they control patients' pain, while 39% treat postoperative nausea and vomiting. Furthermore, 46.5% of the respondents reported controlling the patients' pain at the end of the surgery. (Table 2)

Table 2: Responders' answers of an anesthesiologist's role

	Yes	No	I don't know
In operating room	98.8		1.2
In ICU	37.6	37.7	24.7
Labor anesthesia	84.8	6.2	10.6
Pain clinic	46.6	23.5	29.9
Makes surgery	2.45	89.6	7.9
Emergency Position	67.1	12.8	20.1

When asked who was responsible for postoperative care in the anaesthesia care unit, 51% said the anaesthetist, 38.5% said the surgeon and anaesthetist together, 4.2% said the surgeon alone and 6.3% said they don't know.

Another question asked whether the respondents were afraid of anaesthesia. And 50.6% said "no", 43.4% said "yes" and 6% said "don't know". A further question analysed the fear of anaesthesia, and 33.3% of the answers were not waking up from anaesthesia, 9.5% will not sleep completely, 17% will wake up, and 17% will feel pain during the operation; the 23.1% answer was all of these.

Questions about COVID-19 were asked at the end of the survey. The first question was "Have you had a COVID-19 infection" and only 12.8% answered yes. The second question was "Have you had a patient followed up in intensive care for COVID-19?" and 25% answered yes. And if they know who followed their patient in the ICU, the answer is 17.9% yes.

Another question was: Which medical specialties can be trained to become an intensive care specialist? 47% of respondents answered all specialties: 32.4% answered anaesthesia, 32.2% surgery and 8.6% ophthalmology. When asked if the roles and responsibilities of anaesthetists were better understood after the COVID-19 pandemic, 59.9% did not know, 25.6% yes and 14.5% no.

DISCUSSION

Despite the high risk of severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2), anaesthetists around the world continued to be at the forefront, maintaining a tradition of ingenuity and dedication. With this study, we wanted to find out whether the role of "undercover hero" continues for the public, and whether the public's perception of the role of the anaesthesiologist has changed since the COVID-19 pandemic for the first time with more than 2000 randomly selected participants. In our study, unfortunately, we found that not much has changed: only 71.2% of the respondents knew that anaesthetists are medical specialists; 68.5% monitored haemodynamic parameters during surgery; only 22.8% answered the question about the assessment and transfusion of serum and blood during surgery by the anaesthetist and 44.8% by the surgeon; the control of post-operative nausea, vomiting and pain after surgery was answered by only 39 and 46% respectively. The most important finding of our study after the two-year pandemic period was that 63.4% of respondents still did not know the role and responsibilities of the anaesthetist in the ICU.

Anesthetists' image and status have long been a source of contention in the medical community and the public. In the literature, a lot of studies can be found before the COVID-19 pandemic, about poor knowledge of who the anesthesiologist

was, what his or her duties and responsibilities were. At the conclusion of all these studies, it was stated that more individual efforts by anesthesiologists, media, and health programs must be needed.

In the studies conducted in the literature about this subject, the correct answer to the question of who an anesthesiologist was varied between 50 and 99%, and our findings were similar to these studies. (2-12)

When we looked at the two studies that were performed in Turkey before the pandemic, the first one by Ezgi et al., they found 66.3% of the people knew the anesthesiologists were specialists, similar to our results, even though their responder's education level was lower than in our study. (15) And similar to our study, they found that 37.4% of responders knew the anesthesiologists worked in the intensive care unit. In the second study, Sagun et al, 76.3% of the patients knew that an anesthesiologist is a medical specialist, but unlike our study, only 4% of respondents knew that anesthesiologists worked in ICUs. (16) The difference between these two studies and ours is that the first enrolled in 1994, whereas the second enrolled only 250 preoperative patients. We tried to analyze a heterogeneous, randomly selected population, not some specific patient population who were not linked with anesthesia and were not awaiting surgery. With this approach, we believe that we can better reflect society and yield more objective results.

In another study, whose protocol was similar to ours from Romania before the COVID pandemic, 92.9% of the responders knew who the anesthesiologist was, but only 32% knew their role in the ICU. They explained their results with education level that was lower than those in our study (10). But just like our study with Shevde et al. and the last study before the pandemic in 2022 by Arefayne et al. showed, there is no correlation between anesthesia knowledge and educational level (13,17).

We can see that a lot of factors, like age, gender, education level, and responder population, affect the knowledge in the literature. In the study of Arefayne et al., 53.4% of the responders knew that anesthesiologists worked in ICUs, but their respondents were only preoperative patients, and their education level was 35.8% illiterate (13).

When the anesthesiologist's duties were analyzed, we found that 44.8% of respondents thought serum and blood transfusions during surgery were made by the surgeon and postoperative pain and postoperative nausea and vomiting were not controlled by an anesthesiologist for 49% and 61%, respectively. These results mostly corroborate a lot of studies (18,19). Deepa et al. found similar or even worse results about the patients maintaining hemodynamics during the operation: less than 5% (20). Also, Onutu et al. found similar results to ours; in their study, they found that 36.2% of patients had estimated bleeding and made blood and serum transfusions by an anesthesiologist, and 54.6% of postoperative pain was controlled by the surgeon (10).

Finally, while anesthetists fulfill many roles outside the operating room, especially in intensive care units, these roles are very rarely ascribed to anesthetists by the public. In the literature, we can find that there is poor knowledge about the roles of anesthesiologists in ICU before the COVID-19 pandemic. The pandemic has been an opportunity for anesthesiologists to showcase their skills. These skills were used successfully in the process of distributing care in the COVID-19 pandemic, both to COVID and non-COVID patients. For the moment, we have the attention of the entire hospital and much of the general public, or at least that's what we anesthesiologists thought. Before the pandemic, the knowledge of the anesthesiologist's role in the ICU was between 6–40% (10,13,15,16).

The COVID-19 pandemic should be a wakeup call, but in our study, we found that, nothing had changed; only 37.6% of the people knew that anesthesiologists had a role in ICUs after the two years of the pandemic. Unfortunately, the question of "I know the duties of an anesthesiologist better after the COVID-19 pandemic?" was answered I didn't notice" by 59.9%.

We thought that the COVID pandemic generated public awareness about anesthesia and the role of an anesthesiologist in ICU. Even the scope and versatility that anesthesiologists demonstrated during the COVID-19 pandemic and made daily routine practice "the secret hero identity" didn't change. There can be a lot of reasons for inadequate knowledge.

1. It doesn't matter to them who was following their patients. This is so much related to age, gender, educational status, personality, and socioeconomic status, which we mentioned earlier. Further education for the public of the diverse roles and responsibilities of the anesthesiologists would be invaluable in promoting the importance of our work.

2. The anesthesiologist's identity as intensive care workers is lagging; however, when asked, the underlying identity is stated. Although even the head of the intensive care association is an anesthesiologist in our country, everybody knows him as an intensive care specialist, the identity of the anesthesiologists has remained hidden behind the identity of the intensive care.

3- Changing teams of anesthesiologists routinely during a working day means that patient relatives are seen by different anesthesiologists every time, and this could be a factor in creating confusion. So, people were unaware of whom they were meeting.

In conclusion, the results show a poor perception of the anaesthetist and his responsibilities, which are still poorly understood after a great pandemic. As Papper stated in 1950, "many physicians are completely unaware of the knowledge that the anaesthesiologist possesses" (21). We must earn the right to do so by gaining the respect of our colleagues in medicine, the public and management. This can be improved by developing the anaesthesiologist-patient relationship, and more efforts should be made to inform the public correctly about the activities and responsibilities of anaesthesiologists.

Acknowledgment: All the authors included every stage of the manuscript. No potential conflict of interest relevant to this article. There is not any sponsor used for this manuscript.

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