



Original Article

Emergency medicine physicians' perspectives on subspecialty training: A national survey

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ABSTRACT

Background: Subspecialty training (sST) is an accepted educational model for the branches that have completed the maturation period. At the end of a rapid growth and reaching its limits, we wanted to determine the emergency medicine (EM) physicians' thoughts about subspecialty training in EM in Turkey.

Method: This is a national cross-sectional survey study conducted in November 2017. Participants were physicians who were receiving or who had completed emergency medicine education.

Results: The response rate was 32% (n = 607) in the study. The rate of attending physicians was 45.1%, resident physicians were 40.2%, and academic staff were 14.7%. Among all the EM physicians, 85.2% noted the need for sST, 9.6% were uncertain about the need, and 5.3% found the need unnecessary. The most frequently requested trainings were toxicology (72.5%), traumatology (71.3%), and critical care (67.4%). After sST, 48.9% of EM physicians requested to work both in the emergency department and in the other relevant department, 36.1% requested to work full-time in the emergency department, and 14.9% requested to work full-time in the other relevant department.

Conclusion: The great majority of EM physicians believed in the need for sST in Turkey. There were two primary reasons for wanting to apply for sST: first, and most frequently, was the contribution to advanced training, and second, was avoiding problems in the daily practice of EM.

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1. Introduction

Subspecialization tends to occur when there are enough passionate physicians attempting to provide a specific patient care need.¹ Subspecialty training (sST) in emergency medicine (EM) first started in the 1990s in the United States. Since then, many sST programs covering various areas have emerged in different countries.² Many EM physicians now focus on separate areas of research and practice, from ultrasound to wilderness, because EM has matured enough as a specialty.³

In Turkey, EM was recognized as a specialty in 1993 and

currently there are 95 academic emergency departments. The duration of training is four years and the number of EM physicians is increasing every year. sST is a topic open to debate in intensive emergency medicine education and practice, as there are both needs for and barriers to this advanced training in our country.^{2,4} Physicians each have their own discrete ideas and hesitations about what training models and areas should be included in sST, and they each have their own expectations of what this looks like in practice. Even so, many EM physicians have made too much effort nationally or internationally to improve their skills in specific areas they are interested in.⁵ Finally, there is no study that investigates perspectives of emergency medicine physicians regarding sST in Turkey.

We conducted a national survey with EM physicians in Turkey, aiming to determine their perspectives as related to sST in emergency medicine.

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2. Methods

2.1. Study design and population

This is a prospective cross-sectional survey study conducted during the first 10 days of November 2017. Participants were emergency medicine residents, attending physicians, and academic staff. The Emergency Medicine Association of Turkey (EMAT) is the first and oldest association of EM in Turkey. There are 1900 EMAT members in Turkey, and the vast majority of EM physicians are

included in this number. The sample size was obtained through a web calculator (<https://www.surveymonkey.com/mp/sample-size-calculator/>), and it was found that 320 participants with a 95% confidence interval and a 5% margin of error would be ideal. However, because a small group of physicians are not members of EMAT, we tried to reach as many EM physicians as possible.

The survey was uploaded to an online website (www.surveymonkey.com) and was also delivered to participants via the EMAT e-mail system and social media accounts (Twitter and Facebook). Individual approval was made mandatory on the first page of the

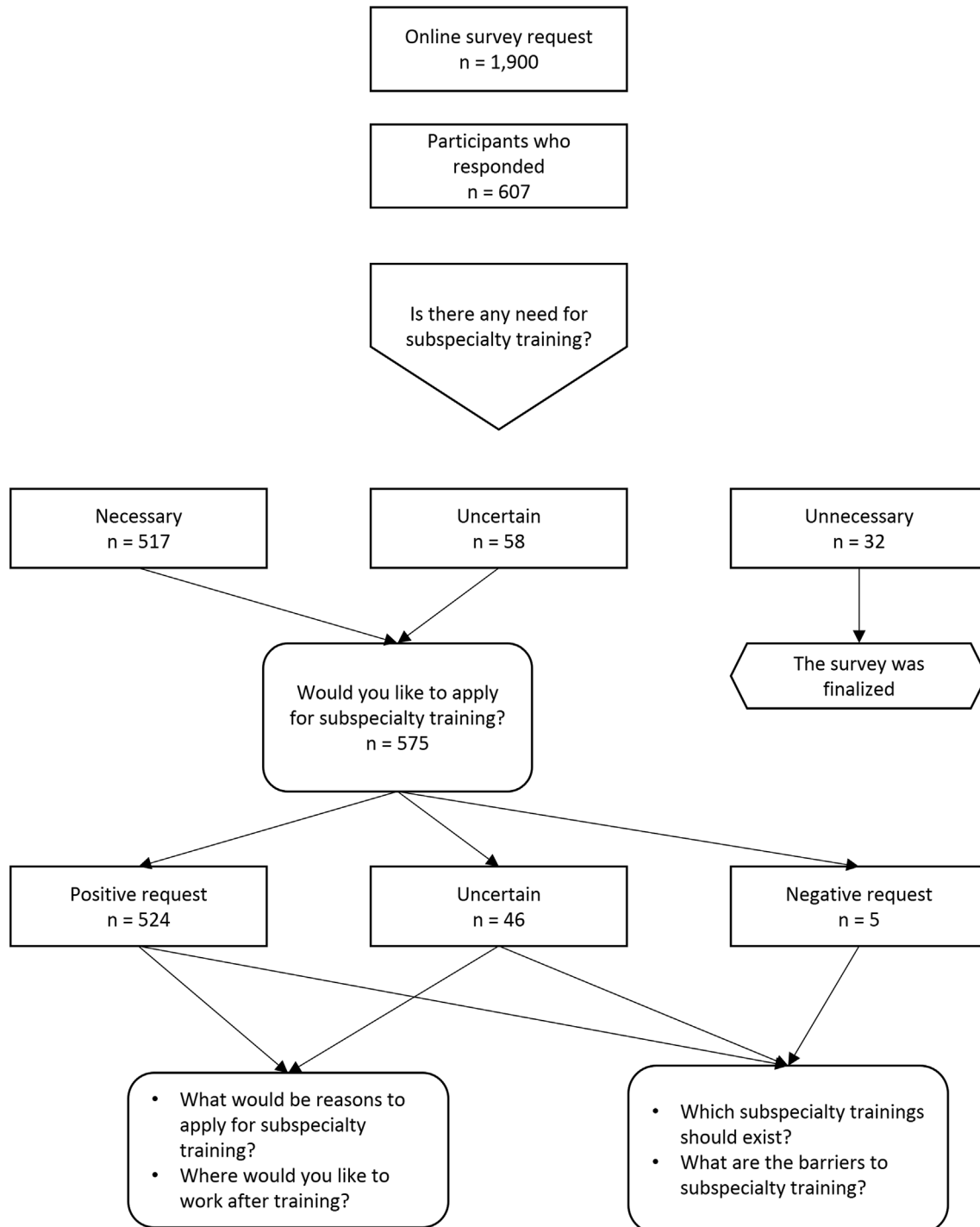


Fig. 1. Study design and flow diagram of the survey.

Table 1
The reasons to apply for subspecialty training for EM physicians.^a

Subjects	n (%)
Request for advanced training in a specific area of interest	375 (61.8%)
Indirect contribution to the development of emergency medicine	284 (46.8%)
Due to broad emergency medicine coverage	279 (46.0%)
Contribution to the academic carrier	227 (37.4%)
Reluctance to treat all kinds of patients	207 (34.1%)
Reluctance to work full-time in the ED	98 (16.1%)
Inadequate training in some areas	68 (11.2%)
Other	10 (1.6%)

EM (emergency medicine).

^a Questions with multiple answers.**Table 2**
Requested subspecialty trainings by EM physicians.^a

Type of training	n (%)
Toxicology	440 (72.5%)
Traumatology	433 (71.3%)
Critical care	409 (67.4%)
Disaster medicine	248 (40.9%)
Pediatric EM	248 (40.9%)
Ultrasound	209 (34.4%)
Geriatric EM	198 (32.6%)
Cardiovascular EM	171 (28.2%)
Forensic EM	107 (17.6%)
Pre-hospital EM	104 (17.1%)
Palliative care	71 (11.7%)
Simulation	63 (10.4%)
International EM	60 (9.9%)
Education/Research	58 (9.6%)
Health policy	42 (6.9%)
Wilderness medicine	40 (6.6%)
Addiction medicine	37 (6.1%)
Other (such as, interventional, sports medicine, or radiology)	17 (2.8%)

EM (emergency medicine).

^a Questions with multiple answers.

survey with an explanation of the study. Multiple completions of the survey were blocked via electronic cookies provided by a website security tool. In addition, the study was approved by the ethics committee.

2.2. Data collection

There were 12 questions on the survey. Gender, age, current

Table 3
The barriers to subspecialty training for EM physicians.^a

Subjects	n (%)
The reluctance of the Ministry	394 (64.9%)
Lack of sufficient power of emergency medicine to make its voice as heard as the other main branches	377 (62.1%)
Lack of academic emergency departments to provide training for subspecialties	278 (45.8%)
Opposition of other branches	276 (45.5%)
Not enough actively working EM physicians	221 (36.4%)
Income reduction during subspecialty training	95 (15.7%)
The tendency of all emergency physicians to apply to this area	88 (14.5%)
Other	15 (2.5%)

EM, emergency medicine.

^a Questions with multiple answers.

title, type of residency training (from university or training/research hospital), duration of duty in the emergency department (ED), level of satisfaction with job, the need for sST and the application request for it, and future job plans required a single answer. The reason for needing sST, choice of sST, and barriers against sST could be completed as multiple answers.

2.3. Statistical analysis

Statistical analyses were performed using the IBM SPSS statistical package for Windows, version 21.0. Continuous variables were presented as median values and interquartile ranges (IQRs). Categorical variables were summarized as frequencies and percentages. The normality of the continuous variables was evaluated using the Kolmogorov-Smirnov test. Comparisons between more than two groups were conducted using Kruskal-Wallis tests. Categorical variables were compared using the Pearson χ^2 or Fisher exact test. A critical α value of .05 was accepted as statistically significant.

3. Results

The response rate was 32% ($n = 607$) in the study (Fig. 1). The median age of participants was 33 years (IQR, 29–37 years) and 65.7% were male. Among the participants, 45.1% were attending physicians, 40.2% were resident physicians, and 14.7% were academic staff. The need for sST was noted by 85.2% of EM physicians, 9.6% were uncertain about the need, and 5.3% found the need unnecessary. The residency trainings was provided by university hospitals for 61.3% of participants and by education/training hospitals for 38.7%. There was no relationship between the need for sST and the type of residency training for EM physicians ($P > .05$).

The median duration of duty in the emergency department was 6 years (IQR, 3–10 years) for the need for sST group, 6.5 years (IQR, 3–8.5 years) for the uncertain group, and 8 years (IQR, 6–12.75 years) for the unnecessary group. There was no statistical difference among groups. Of all participants, 49.4% were satisfied with their work, 28.5% were uncertain, and 22.1% were unsatisfied. When comparing the need/uncertain/unnecessary of sST groups, there was no statistical difference.

Among the need and uncertain of sST groups, 86.3% participants noted a positive request to apply for sST if there would be training, 7.6% noted an uncertain request, and 0.8% noted a negative request. The reasons to apply for sST are shown in Table 1. The most frequently requested trainings were toxicology (72.5%), traumatology (71.3%), and critical care (67.4%), as shown in Table 2.

The barriers against the sST for emergency physicians are shown in Table 3. After sST, 48.9% of EM physicians requested to work both in the emergency department and in the other relevant department, 36.1% requested to work full-time in the emergency department, and 14.9% requested to work full-time in the other relevant department.

4. Discussion

Over the course of twenty years, EM has evolved as a specialty at an increasing rate in Turkey.⁶ Now, there are many working groups in association with EM, such as ultrasound, toxicology, critical care, and resuscitation. These working groups have created suitable theoretical and practical courses for other physicians and are also following new developments in their areas of interest.

In this study, we found that 85.2% of EM physicians believed in the need for sST in Turkey. In addition, the need of sST was not affected by residency training type, duration of duty in the ED, or satisfaction with the job. If there would be training, over 80% of physicians stated that they would like to apply for it. This ratio

would not be feasible in real life because of restricted quotas and training types, and compulsory services in our country. In the U.S., subspecialty certificates were given to only 4.3% of American Board of Emergency Medicine (ABEM) diplomates.¹

There were two primary reasons for wanting to apply for sST: first, and most frequently, was the contribution to advanced training, and, second, was avoiding problems in the daily practice of EM. Although there are more studies regarding EM problems, such as overcrowding⁷ or violence,⁸ than those of advanced training, this study showed that most physicians pay more attention to professional development by requesting sST. However, it can still be difficult to distinguish these two topics from one another by certain lines.

One study found that the most common subspecialty training programs (certified or not) were pre-hospital EM, ultrasound, and pediatric EM in the United States, and pediatric EM, pre-hospital EM, and ultrasound/critical care in Canada.⁹ Another study showed that the subspecialties of medical toxicology (adopted in 1992), pediatric EM (adopted in 1991), and pre-hospital EM (adopted in 2010) have the most certified ABEM diplomates.¹ Toxicology, traumatology, and critical care were the most commonly preferred trainings by 70% of participants in this study. Disaster medicine, pediatric EM, and ultrasound were preferred by approximately 40% of participants.

The reluctance of the Ministry of Health and the lack of sufficient power of EM were the most common barriers to sST, according to over 60% of EM physicians. The lack of sufficient academic emergency departments and the opposition by other branches were the other most common barriers to sST, according to over 40% of physicians. Although EM is a younger branch than other main branches, it has developed quickly as it has been a necessity for the health system. Even so, the above-mentioned barriers are important for most of the physicians.

Finally, we found that nearly half of the EM physicians would like to work together in the ED and in another unit after subspecialty training. One-third would like to work full-time in the ED. We interpret this as possibly meaning that EM physicians do not want to struggle with EM problems in daily practice or that they want to progress in their specific areas of interest. These two topics seem to be the cause and effect between the reasons of need for sST and future job plans.

We did not access the small group of physicians who are not members of EMAT, so this was one of the limitations of the study. In

order to overcome this hurdle, we tried to reach as many other participants as we could. Another limitation was the reluctance of physicians who think that sST is unnecessary to participate in the survey. So, the real number of participants who think like that would be higher than shown in our study results.

5. Conclusion

Most EM physicians believed in need for sST in Turkey. This was related to progress in specific areas of interest as well as avoiding EM problems in daily practice. This result shows that there are still problems that have to be solved in the practice of emergency medicine in our country. Even so, many physicians have already set their goals for advanced education. Therefore, future projects regarding subspecialty training should be planned by identifying the demands and problems in advance.

Conflicts of interest

None.

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References

1. Peota C. Branching out. A look at subspecialization in emergency medicine. *Minn Med.* 2015;98:12–15.
2. Aslaner MA. A reality in emergency medicine: subspecialization. *Eur J Emerg Med.* 2017;16:144–147.
3. Sinclair D. Subspecialization in emergency medicine: where do we go from here? *Cjem.* 2005;7:344–346.
4. Satar S, Cander B, Avci A, Acikalin A, Orak M, Acin M. Why speciality in Emergency Medicine is not preferred. *Eur J Emerg Med.* 2013;12:234–236.
5. Emergency Medicine Subspecialties. Available at <http://www.acilci.net/acil-tip-yan-dallari/>. (Accessed 11.12.2017).
6. Aksay E, Sahin H, Kiyani S, Ersel M. Current status of emergency residency training programs in Turkey: after 14 years of experience. *Eur J Emerg Med : Off J Eur Soc Emerg Med.* 2009;16:4–10.
7. Erenler AK, Akbulut S, Guzel M, et al. Reasons for overcrowding in the emergency department: experiences and suggestions of an education and research hospital. *Turkish J Emerg Med.* 2014;14:59–63.
8. Bayram B, Çetin M, Çolak Oray N, Can İÖ. Workplace violence against physicians in Turkey's emergency departments: a cross-sectional survey. *BMJ Open.* 2017;7.
9. Thoma B, Mohindra R, Woods RA. Enhanced training in emergency medicine: the search and application process. *Cjem.* 2015;17:565–568.