Educational Needs of Pediatric Surgery Residents

Çocuk Cerrahisi Araştırma Görevlilerinin Eğitim İhtiyacı

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ABSTRACT

Objective: Surgical education and training play a critical role for surgeons to develop their professional skills and provide the best care to their patients. A survey was conducted to determine the education needs of surgery residents, especially in specialized fields such as pediatric surgery. The aim of this study was to determine the educational needs of pediatric surgery residents and to contribute to the development of educational programs for these needs.

Material and Methods: The study was conducted with a questionnaire designed to determine the demographic data and educational needs of pediatric surgery residents working in city hospitals in Ankara. The questionnaire questions covered topics such as surgical decision making, communication, leadership, professionalism, surgical ethics, surgical simulation, scientific research and patient management.

Results: Residents were 39% female who participated in the questionnaire and their graduation included Ankara, Istanbul and Izmir. The most needed areas of education among residents were identified as scientific research (87%), surgical simulation (74%) and leadership (43%). Other important needs included surgical decision making, communication, professionalism and surgical ethics.

Conclusion: Increasing surgical simulation and scientific research training in surgical training programs will play an important role in improving the professional competencies of research assistants and the quality of patient care. Future studies may evaluate the generalizability of these findings with larger samples. In conclusion, more targeted and comprehensive approaches should be adopted in pediatric surgery education.

Key Words: Clinical Skills, Decision making, Postgraduate education

ÖZ

Amaç: Cerrahi eğitim, hekimlerin mesleki becerilerini geliştirmeleri ve hastalarına en iyi bakımı sunabilmeleri için kritik bir rol oynamaktadır. Özellikle çocuk cerrahisi gibi özelleşmiş alanlarda, araştırma görevlisi hekimlerin eğitim ihtiyaçlarını belirlemek amacıyla bir anket çalışması yapılmıştır. Bu çalışmanın amacı, çocuk cerrahisi araştırma görevlilerinin eğitim ihtiyaçlarını belirlemek ve bu ihtiyaçlara yönelik eğitim programlarının geliştirilmesine katkı sağlamaktır.

Gereç ve Yöntemler: Çalışma, Ankara'da bulunan şehir hastanelerinde görev yapan çocuk cerrahisi araştırma görevlisi olan 23 katılımcının demografik verileri ve eğitim ihtiyaçlarını belirlemek üzere tasarlanmış bir anket ile gerçekleştirilmiştir. Anket soruları, cerrahi karar verme, iletişim, liderlik, profesyonellik, cerrahi etik, cerrahi simülasyon, bilimsel araştırma ve hasta yönetimi gibi konuları kapsamaktadır.

Bulgular: Ankete katılanların %39'u kadındı ve mezun oldukları üniversiteler arasında Ankara, İstanbul ve İzmir yer almaktadır. Araştırma görevlileri arasında en çok ihtiyaç duyulan eğitim alanları bilimsel araştırma (%87), cerrahi simülasyon (%74) ve liderlik (%43) olarak belirlenmiştir. Diğer önemli ihtiyaçlar arasında cerrahi karar verme, iletişim, profesyonellik ve cerrahi etik yer almaktadır.

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Sonuç: Çalışma ile cerrahi eğitim programlarında yer alan cerrahi simülasyon ve bilimsel araştırma eğitimlerinin artırılması, araştırma görevlilerinin mesleki yetkinliklerini ve hasta bakım kalitesini artırmada önemli bir rol oynayacaktır. Gelecekteki araştırmalar, daha geniş örneklemlerle bu bulguların genellenebilirliğini değerlendirebilir. Sonuç olarak, çocuk cerrahisi eğitiminde daha hedeflenmiş ve kapsamlı yaklaşımlar benimsenmelidir.

Anahtar Sözcükler: Klinik beceriler, Karar verme, Mezuniyet sonrası eğitim

INTRODUCTION

Surgical training is crucial for surgeons to develop their professional skills and provide the best care to their patients (1). In a specialized field such as pediatric surgery, the education that resident surgeons will receive should include both basic principles and practical skills (2). However, there is controversy about the extent to which current educational programs meet the needs of resident surgeons.

Research on the limitations of surgical education and what needs to be improved reveals that resident surgeons encounter various difficulties during their residency (3-4). These difficulties include surgical decision-making, effective communication, leadership skills, professionalism, surgical ethics, simulation-based training, patient management and scientific writing (3-7).

This study aimed to present the results of a questionnaire designed to better understand the educational needs of pediatric surgery residents. The questionnaire questions included topics such as surgical decision making, communication, leadership, professionalism, surgical ethics, surgical simulation, scientific writing and patient management. The results will provide important information for reshaping surgical educational programs and improving the technical and non-technical skills of resident surgeons.

MATERIALS and METHODS

This study is a cross-sectional study to describe the educational needs of pediatric surgery residents. Pediatric surgery residents in city hospitals in Ankara participated in the study. There are a total of 38 resident surgeons working in city hospitals. Of these, 23 participated in the study. The selection of participants was based on volunteerism.

Data were collected through a designed questionnaire. The questionnaire included two sections to determine the demographic information and educational needs of the participants. In the demographic section, the participants were asked questions such as gender, age, university of graduation, year of graduation, duration of general practitioner experience and year of residency. The educational needs section included questions on topics such as surgical decision making, communication, leadership, professionalism, surgical ethics, surgical simulation, scientific writing and patient management, and finally the other section.

The questionnaire was prepared electronically and sent to the participants via e-mail. Participants were given two weeks to complete the questionnaire and reminders were sent during this period. It took approximately 4 minutes to complete the questionnaire.

The collected data were analyzed using IBM Statistical Package for the Social Sciences, version 25.0 (SPSS Inc., Armonk, NY, IBM Corp., USA). While demographic data were analyzed with frequency and percentage distributions, mean and standard deviation were calculated for the analysis of questions related to training needs. In addition, chi-square test was used to compare the educational needs between different demographic groups.

RESULTS

The questionnaire was sent to 30 people and 23 answered the questionnaire. Nine of the participants (39%) were female. Among the medical faculties from which the participants graduated, 11 (48%) graduated from medical faculties located in Ankara, Istanbul and Izmir. They worked as general practitioners for an average of 1.2 years before becoming residents.

Participants' responses regarding their educational needs:

- Surgical Decision Making: 9 participants (39%)
- Communication: 8 participants (35%)
- Team Work: 4 participants (17%)
- Leadership: 10 participants (43%)
- Professionalism: 7 participants (30%)
- Surgical Ethics: 8 participants (35%)
- Surgical Simulation: 17 participants (74%)
- Patient Management: 7 participants (30%)
- Scientific Research: 20 participants (87%)

According to the questionnaire results, scientific research (87%), surgical simulation (74%) and leadership (43%) were identified as the most needed training areas for pediatric surgery residents. These results indicate that pediatric surgery training programs should be improved in these areas.

The distribution of educational needs according to the year of residency is shown in Table I. The need for teamwork training was found to be significantly higher among third year residents (p=0.021). There was no significant difference in other educational needs according to the year of residency. However, the need for scientific research and surgical simulation training was highly expressed by resident surgeons of all years.

The distribution of training needs according to gender is shown in Table II. It was found that female residents felt a higher

Table I: Educational needs by resident year

	1st year (n=2)	2nd year (n=9)	3rd year (n=4)	4th year (n=3)	5th year (n=5)	p
Surgical Decision Making	2	3	2	1	1	>0.205
Communication	2	4	0	1	1	>0.105
Teamwork	0	1	3	0	0	0.021
Leadership	2	4	2	1	1	>0.119
Professionalism	2	3	0	1	1	>0.179
Surgical Ethics	1	5	0	1	1	>0.194
Surgical Simulation	2	5	2	3	4	>0.725
Patient Management	0	5	0	1	1	>0.201
Scientific Research	2	7	4	2	5	>0.492
Other	-	-	-	-	-	-

Table II: Educational needs by gender

	Female	Male	p
Surgical Decision Making	8	1	<0.001
Communication	6	2	0.010
Teamwork	3	1	>0.050
Leadership	8	2	<0.001
Professionalism	6	1	0.002
Surgical Ethics	5	3	>0.110
Surgical Simulation	7	10	>0.565
Patient Management	4	3	>0.239
Scientific Research	8	12	>0.668
Other	-	-	-

need for educational needs than male residents in areas such as surgical decision making, communication, leadership and professionalism. On the other hand, no significant difference was found between genders in areas such as teamwork, surgical ethics, surgical simulation, patient management and scientific research. Especially surgical simulation and scientific research education are highly important for both genders.

These findings suggest that the educational needs of pediatric surgery residents should be addressed comprehensively. Particularly, the development of basic principles, technical and non-technical skills such as scientific research and surgical simulation will play a critical role in improving the professional competence of resident surgeons.

DISCUSSION

This study was conducted to determine the educational needs of pediatric surgery residents. The findings, when compared with the existing literature, suggest that there are deficiencies in certain areas of surgical education.

According to the questionnaire results, scientific research (87%) and surgical simulation (74%) were found to be the most needed educational areas for pediatric surgery residents. In the literature, surgical simulation training has been shown to be effective in improving residents' practical skills and reducing surgical complications (8-12). Similarly, education in scientific research is critical for the advancement of surgeons in their careers and the development of innovative surgical techniques (6).

Leadership (43%) and communication (35%) skills were also mentioned as important educational needs. Effective leadership and communication in surgical teams are of great importance for patient safety and team cohesion (13-15). These results suggest that surgical programs should include modules to develop leadership and communication skills.

Professionalism (30%) and surgical ethics (35%) were also mentioned as important educational areas by the residents. These results emphasize that surgeons should be equipped not only with technical skills, but also with ethical and professional behaviors that are included in non-technical skills (13, 16-20).

This study has some limitations. First, the questionnaire only included pediatric surgery residents in city hospitals in Ankara and therefore the results cannot be generalized to pediatric surgery fellows in Turkey. Second, the sample size of the questionnaire is small and this may limit the representativeness of the results.

Future research could be conducted with larger samples and participants from different regions. In addition, longitudinal studies evaluating the effects of specific educational modules such as surgical simulation and scientific research could be conducted.

CONCLUSION

This study revealed that scientific research, surgical simulation and leadership are the most needed educational areas for pediatric surgery residents. It emphasizes that surgical training programs should be improved in these areas. Establishment of surgical simulation laboratories and encouragement of scientific research projects are recommended to increase the professional competencies of residents. In conclusion, more targeted and comprehensive approaches should be adopted in pediatric surgery education.

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