

# Perspective of emergency specialists and research assistants in Turkey towards geriatric patients status of their education about geriatrics

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## Abstract

**Aim:** With the increase in the geriatric population, admissions to emergency units are increasing each day. This study aims to determine the perspective and attitudes of emergency specialists towards geriatric patients, and to form a training program for emergency medicine to improve the quality of patient care.

**Materials and Methods:** We conducted a complementary study designed as a survey. At the end of the study period, the data collected were recorded in SPSS for Windows 15.0 (SPSS Inc.®, Chicago, ABD) program package and statistically analyzed. The Chi-square, Yates corrected chi-square and the Fisher's exact tests were used in order to define the relationship between the parameters. The level of significance was accepted as  $p < 0.05$ .

**Results:** 335 physicians working in the emergency units responded to the survey questionnaire and participated in the study. Overall, 74.7% of the participants worked in the institutes where a geriatric division or department was not present. No specific division of geriatrics was present in the institute where 60.5% of the participants worked. 79.4% of the participants mentioned that hospitalization of geriatric patients was avoided compared with that of younger patients where they worked. Furthermore, 37.3% of research assistants and 13.1% of the specialists mentioned that they had no training in geriatrics. 68.2% of the participants stated that they felt sufficient in approaching geriatric patients and 67% stated that they felt sufficient in communication with them. The participants desired training mostly in drug interactions, elder abuse and communication. 226 (68.9%) the emergency unit doctors stated that they had patients who had been subjected to elder abuse. Finally, 72.8% of the participants felt no unwillingness in case of a need for resuscitation to elderly patients with no oncological disease or those who were not accepted to be in their terminal period.

**Conclusion:** Training of emergency unit specialists for the management of geriatric patients is insufficient and needs to be revised.

**Keywords:** Emergency medicine; geriatrics; health services for the elderly; medical education, curriculum

## INTRODUCTION

Geriatrics was defined in the 1998 report of World Health Organisation (WHO) as increased disabilities and being more dependent on others. There are approximately 650 million elderly adults worldwide and this population is estimated to reach 2 billion by 2050. According to the data obtained in January 2012, the number of people aged  $\geq 65$  years was 5.490.715 (7.3%) in Turkey. Both primary and secondary care hospitals are insufficient for the elderly in Turkey. The number of specialists trained in geriatrics is also insufficient, which negatively affects the quality of healthcare. Only internal medicine specialists are entitled to act as geriatric specialists in Turkey.

The existing health services with a focus on young people are inadequate to meet the needs and to detect the complex health problems of elderly patients. The elderly adults with health problems are commonly admitted to the emergency unit (1). The rate of admission of geriatric patients to the emergency units is 14-21% (2). Although the emergency physicians are the physician group that faces elderly patients most, as compared to other physician groups, their approach, requests, learning situations and problems regarding this issue are not well known. The presence of physiological variations, concomitant diseases and the use of multiple medications lead to problems in the evaluation and treatment of geriatric patients. A more detailed

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anamnesis and physical examination are recommended for the evaluation of geriatric patients, detailed laboratory and radiological findings may be necessary as well (3). The risk of misdiagnosis is higher compared to the young patient. The emergency specialists reported that they spend more time in evaluation of elderly patients and the training they receive during specialization is insufficient. (4).

Elderly patients are a special group of the population. Studies, health and social services for this special group are still inadequate. Developing protocols for geriatric patient care, ensuring the presence of trained health care providers and providing a proper and convenient place for geriatric patients in the hospital are necessary; these measures can would reduce delirium, iatrogenic complications, and costs and duration of hospital stay, as well as improve the long-term outcomes of the patients and relatives thereby providing satisfaction to the clinicians.

. In our study, perspectives and approach of the emergency medicine physicians towards geriatric patients are analyzed. Emergency medicine doctors in Turkey are aware of the problems caused mainly by the increase in the number of elderly patients. In order to reduce the problems created by overcrowd of the elderly patients in emergency departments; the results showed that guidelines must be created for developing an emergency medicine curriculum and for increasing the quality of patient care.

## MATERIALS and METHODS

We conducted a complementary study designed as a survey. The emergency specialists and research assistants participated. According to the data of Emergency Medicine Physicians Association of Turkey in February 2012, 723 research assistants, 634 specialists, and 1357 doctors were working at the emergency units in Turkey. Among them, personal e-mail addresses of 780 (57.4%) individuals could be obtained.

**Table 1. The questionnaire of the survey**

- 1) Age?
- 2) Gender?
  - a) Female
  - b) Male
- 3) Institution?
- 4) Academic title?
  - a) Professor
  - b) Associate professor
  - c) Assistant professor
  - d) Lecturer
  - e) Attending physician (specialist)
  - f) Research assistant
- 5) If you are a research assistant, your research year?
  - a) 1
  - b) 2
  - c) 3
  - d) 4
  - e) 5
- 6) How many years have you been working in the emergency medicine clinic?
- 7) Do you have geriatric department or division in your institute?
  - a) There is both department and division
  - b) There is department but not division
  - c) There is no department and division
- 8) Do you think there should be a geriatric department in the hospitals?
  - a) Yes
  - b) No
  - c) I have no idea
- 9) Which department deals with geriatrics in your hospital?
  - a) Internal medicine
  - b) Neurology
  - c) Physical medicine and rehabilitation
  - d) Emergency medicine
  - e) There is no department which deals with geriatrics
  - f) A team that includes few departments
- 10) Do you think that hospitalization of geriatric patients was avoided compared with other patients in the hospital where you work?
  - a) Yes
  - b) No
  - c) I have no idea

- 11) What's the the primary causes of admission of the geriatric patients to emergency unit where you work? (you can mark multiple choices)**
- a) Cardiovascular diseases
  - b) Respiratory system diseases
  - c) Gastrointestinal system diseases
  - d) Nefrological diseases/Electrolyte disorders
  - e) Infectious diseases
  - f) Hematological/Endocrinological diseases
  - g) Neurological diseases
  - h) Trauma
  - i) Impaired general condition
  - j) Nonspecific complaints
  - k) Complaints related to various disorders in other organs
- 12) Do you think that geriatrics should be a separate subject during training in emergency medicine?**
- a) Yes
  - b) No
  - c) I have no idea
- 13) Would you like to organize panels and sessions on geriatrics at national congresses and symposiums?**
- a) Yes
  - b) No
  - c) I have no idea
- 14) Have you received training on geriatrics within your curriculum at the institution you work?**
- a) I received training in geriatrics a certain amount of time in the curriculum.
  - b) I received training rarely in geriatrics in the curriculum.
  - c) We talked about geriatric patients in all lessons in the curriculum.
  - d) I learned about geriatrics only from the textbook.
  - e) I didn't receive training in geriatrics
- 15) What kind of a training program should be prepared regarding the approach to elderly patients in Emergency Medicine?**
- a) It should be explained as a separate course board in my clinic.
  - b) Geriatric patients should be mentioned among the special cases at the end of each lecture in my clinic.
  - c) Slides must be prepared through the internet.
  - d) Training videos must be prepared.
  - e) Booklet must be prepared.
  - f) Courses mut be prepared
- 16) Do you feel felt sufficient in approaching geriatric patients?**
- a) Yes
  - b) No
  - c) I have no idea
- 17) Do you feel felt sufficient in communicating geriatric patients?**
- a) Yes
  - b) No
  - c) I have no idea
- 18) Which subject(s) you feel insufficient and you want to receive training in approaching geriatric patients? (you can mark multiple choices)**
- a) Cardiovascular diseases
  - b) Respiratory system diseases
  - c) Gastrointestinal system diseases
  - d) Nefrological diseases/Electrolyte disorders
  - e) Infectious diseases
  - f) Hematological/Endocrinological diseases
  - g) Neurological diseases
  - h) Trauma
  - i) Drug interactions
  - j) Elder abuse
  - k) Communication
- 19) What's your feelings for elderly patients?**
- a) Happiness
  - b) Compassion
  - c) Sense of protection
  - d) Pity
  - e) Stress
  - f) Anger
  - g) Insufficiency

- 20) Do you think that the geriatric patients a cause of overcrowd in emergency units ?
- Yes
  - No
  - I have no idea
- 21) Is the large number of geriatric patients an opportunity for the emergency units today or in the future?
- Yes
  - No
  - I have no idea
- 22) Is the high number of geriatric patients a threat for the emergency units today or in the future?
- Yes
  - No
  - I have no idea
- 23) Do you believe that geriatric patients should be given homecare?
- Yes
  - No
  - I have no idea
- 24) Do you believe that homecare may reduce the overcrowding in the emergency units?
- Yes
  - No
  - I have no idea
- 25) Have you been encountered patients who had been subjected to elder abuse?
- Yes
  - No
  - I have no idea
- 26) Have you reported elderly abuse cases to judicial authorities or social services?
- Yes
  - No
  - I have no idea
- 27) Do you feel unwillingness (just because they are old) towards providing resuscitation to the elderly patients without cancer or those who were not terminally ill?
- Yes
  - No
  - I have no idea
- 28) If the patient mentioned above was your relative, would your approach be the same?
- Yes
  - No
  - I have no idea
- 29) Do you think that geriatrics should be a sub-division of the emergency medicine?
- Yes
  - No
  - I have no idea

The questionnaire of the survey was included in the link <http://www.tatd.in/redcap/> (www.acilarastirma.net), which was emailed to the participants at three different times between 22 February 2012 and 22 March 2012. We included the participants who accepted to fill the survey which we emailed. 335 (24.6%) responded to the survey questionnaire and participated in the study. Of these, three were excluded because of repeated entries and one was excluded for being an internal medicine specialist. The study was approved by the Ethics Committee of Gazi University Clinical Research on 18 January 2012 (Table1).

There were 29 questions in the survey, which were prepared according to the data in the literature. The questions were related to the presence of geriatrics department in their institutes; characteristics of the patients who were presented to the emergency units; and demographic characteristics; educational status, perspectives, and

feelings and needs of the participants regarding geriatric care.

At the end of the study period, the data collected were recorded and analyzed using SPSS for Windows, version 15.0 (SPSS Inc.®, Chicago, United States of America) software package. The chi-square, Yates corrected chi-square and Fisher's exact tests were used to define the relationship between the parameters. A p value <0.05 was considered to be statistically significant.

## RESULTS

In February 2012, 723 research assistants, 634 specialists, and 1357 doctors were working at the emergency units in Turkey. Among them, personal e-mail addresses of 780 (57.4%) individuals could be obtained. 335 (24.6%) responded to the survey questionnaire and participated in the study. Of these, three were excluded because of

repeated entires and one was excluded for being an internal medicine specialist. Finally, 331 doctors (24.4%) were included in the study. Among them, three (0.9%) were professors, 30 (9.1%) were assistant professors, 38 (11.5%) were assistant professor candidates, nine (2.7%) were lecturers, 88 (26.7%) were specialists and 161 (48.9%) were research assistants. A total of 196 (60.9%) worked in university hospitals, 94 (29.2%) worked in research and training hospitals of the Health Ministry, 29 (9%) worked in public hospitals and three (0.9%) worked in private hospitals.

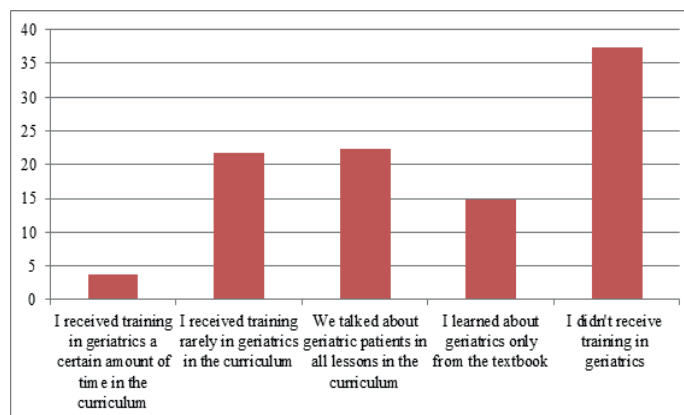
Among the participants, 51 (15.5%) stated that their institutes had both the division and department of geriatrics, two (9.8%) mentioned that their institute had the division of geriatrics but did not have the department, 245 (74.7%) stated that their institute had neither a division nor a department of geriatrics. In 45 (22.8%) of the university hospitals, both the division and the department of geriatrics were present, which was 4.4% in research and training hospitals. Among the participants, 318 (96.7%) believed that geriatrics departments should be present in hospitals.

261 (79.4%) stated that hospitalization of geriatric patients was avoided compared with other patients in the hospitals where they worked. In 80% of the hospitals with both the division and the department of geriatrics, doctors believed that hospitalization of geriatric patients was avoided. Participants believed that university hospitals refrained from hospitalizing of geriatric patients at a higher rate compared with other hospitals. Furthermore, 106 (32.7%), three (0.9%), one (0.3%), 13 (4%) doctors participating in the survey worked in hospitals where the geriatric patients were treated in the division of internal medicine, neurology, physiotherapy, and emergency medicine, respectively. Five (1.5%) doctors mentioned that a team made up of healthcare providers from different departments were responsible for the geriatric patients and 196 (60.5%) said that no specific department was responsible for the geriatric patients.

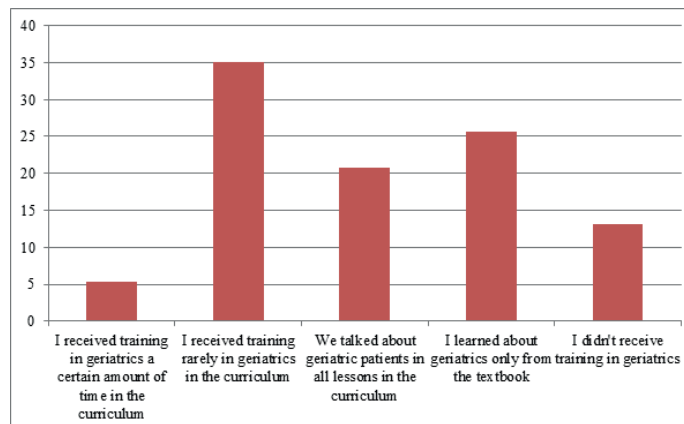
The participants were asked the primary causes of admission of the geriatric patients to emergency units. 267 (80.7%) participants stated impaired general condition, 218 (65.9%) stated complaints related to respiratory diseases, 175 (52.9%) stated neurological complaints, 167(50.5%) stated complaints related to cardiovascular disease, and 164 (49.5%) stated complaints related to various disorders in other organs.

Overall, 276 (%83.4) emergency unit doctors advocated that geriatrics should be a separate subject during training in emergency medicine. When the training of the participants on geriatrics and their respective professional titles were compared, a statistically significant difference was observed. In total 15.9% of the specialists and 36.9% of research assistants mentioned that they had no training in geriatrics. (Figure 1-2). Furthermore, 21% and 33% of the

participants working in university hospitals and research and training hospitals, respectively, mentioned that they had no training in geriatrics. Most of the emergency unit doctors mentioned that they rarely had training in geriatrics during their education or had just talked about geriatric patients at the end of each lecture.



**Figure 1.** Status of emergency unit research assistants regarding training in geriatrics



**Figure 2.** Status of emergency unit specialists regarding training in geriatrics

A total of 68.2% and 67% of the participants felt sufficient in approaching and communicating geriatric patients, respectively. Specialists and those with duration of occupation of  $\geq 6$  years, and who were  $>30$  years stated that they felt more sufficient in the medical approach and communication.

The need for training in drug interactions, elderly abuse, communication, neurological diseases, nephrological disorders and electrolyte impairments was mentioned by 209 (63.1%), 114 (34.4%), 83 (25.1%), 82 (24.8%) and 75 (22.7%) participants respectively.

We found that 97 (29.6%) participants felt compassion for the elderly patients, 94 (28.7%) felt protective, 87 (26.5%) felt pity, 31 (9.5%) felt stress, nine (2.7%) felt insufficiency, seven (2.1%) felt anger, and three (0.9%) felt happy. The feelings of compassion, protectiveness and insufficiency feelings were more common among the specialists, whereas pity and stress were more common among the research assistants.

In this survey, 177 (54.1%) participants mentioned that the geriatric patients overcrowded emergency units and 187 (57%) accepted geriatric patients as a threat for proper functioning of the emergency units (Table 2). 311 (95.9%) believed that geriatric patients should be given homecare, and 277 (83.7%) believed that homecare may reduce the overcrowding in the emergency units.

**Table 2. Comparison of the participants with regard to age, duration of occupation, title and their beliefs about the high number of geriatric patients**

	Is the high number of geriatric patients a threat for the emergency units today or in the future?					
	Yes		No		No idea	
	Count	%	Count	%	Count	%
<b>Age</b>						
24-29 years	47	58	20	24.7	14	17.3
30-35 years	81	59.1	35	25.5	21	15.3
36 years or older	59	53.6	40	36.4	11	10
	<b>p=0.237</b>					
<b>Title</b>						
Specialist	89	53.3	53	31.7	25	15
Research assistant	97	60.6	42	26.3	21	13.1
	<b>p=0.403</b>					
<b>Duration of occupation</b>						
5 years or shorter	105	61	42	24.5	25	14.5
6 years or longer	81	52.9	52	34	20	13.1
	<b>p= 0.164</b>		<b>Chi-square test</b>			

Among all participants, 226 (68.9%) emergency unit doctors stated that they encountered patients who had been subjected to elder abuse, and 186 (56.5%) said that they reported such cases to judicial authorities or social services.

The survey showed that 241 (72.8%) participants felt no unwillingness towards providing resuscitation to the elderly patients without cancer or those who were not terminally ill.

Finally, 62.2% of the participants mentioned that geriatrics should be a sub-division of the emergency department.

## DISCUSSION

In Turkey as well as globally, the geriatric population and their expected survival rate are increasing due to easy access to health services and the development of new therapeutics. This has directly affected the healthcare sector and healthcare staff who are untrained and unaware of the problems related to geriatrics. Admission to the emergency units and the rate of hospitalization are high among geriatric patients due to the presence of comorbid diseases.

Geriatrics has been newly introduced in Turkey and there are no geriatrics specialist or a geriatric division in most of the hospitals. In a review, the division of geriatrics was shown to be present in 10 hospitals in Turkey in 2009 (5).

It may be concluded that an increase in the number of divisions of geriatrics have been observed; however, yet it is far below the current need of the geriatric patients in Turkey.

In the current study 79.4% of the participants said that hospitalization of geriatric patients was avoided in the hospitals where they worked compared to other patients. In the study conducted by Sahin et al. on the characteristics of geriatric patients who were presented to the emergency units, the patients were grouped according to the wards they were hospitalized 30.12% were shown to remained in the emergency unit (6). The hospitalization rate of geriatric patients varies between 11.5% and 61% in the literature. This wide range was related to the difference in the size of geriatric population in different countries (7,8).

In the study of Sahin et al., the most common causes of presentation to the emergency units were cardiovascular diseases, gastroenterological diseases, urinary disorders, trauma and respiratory diseases (6). Shah et al., reported that cardiac, respiratory or gastrointestinal diseases, as well as trauma and neurological diseases were the common causes for admission of the geriatric patients to the emergency units (9). Similar to our study, Karadağ et al., showed that complaints related to fatigue and impaired general condition were significantly higher among patients aged <65 years (10). In a thesis study conducted in Turkey, the most common reasons for presentation of the geriatric patients to the emergency units were neurovascular, cardiovascular and respiratory diseases, and 4.8% of the patients had been admitted due to an impaired general condition (11). Yim et al. reported that geriatric patients were admitted to the emergency units because of more acute conditions and diseases in multiple organs; the most common causes being impaired general condition, chest pain and, neurological symptoms (12). In our study, the experiences of individual doctors were used instead of the official data. The complaints of the patients could vary according to the region and the type of the hospital. Additionally, it may be affected by many other factors including the care provided by the relatives of the patients, distance to the hospital, ability to get services from the hospital and presence of chronic diseases.

The dramatic increase in the geriatric population will affect a wide range of fields including social and health services. Geriatrics should be considered as a special field in the training program for emergency medicine as well as in the training of the medical faculty. Arai et al. have highlighted the importance of this issue and have reported that training programs and research studies are being designed at the National Geriatrics and Gerontology Center of Japan which targeted specialists other than geriatricians (13). Shah et al. concluded that medical students should be provided with a geriatric training as a part of the emergency medicine curriculum, and that the importance of geriatric diseases should be emphasized as well (14). Similar to these studies, the participants of our study have mentioned that geriatrics should be a separate

subject in the training program for emergency medicine, additionally, the rate of doctors advocating this opinion is increasing. This may be attributed to the increased experience of the doctor leading a better evaluation of the needs of geriatric patients.

Several studies have reported that the needs and diseases of the geriatric population are underestimated in many fields of medicine including emergency medicine; additionally, and that insufficiently trained emergency medicine specialists have been working in this field (13). Most emergency specialists believe that geriatrics is underestimated during their training and that the time spent on this field is insufficient (4). The American College of Emergency Physicians (ACEP) recommends working with PowerPoint presentations, interactive case discussions, pocket cards, and reading the literature once the necessary issues have been defined. At the end, the effectiveness of the training is evaluated using evaluations scales, tests and clinical scenarios (15). Salvi et al. reported that a disease-based geriatric training, as a part of the emergency medicine curriculum was not ideal for geriatric patient care. The study suggested that a training program devoted to atypical presentations of the geriatric patients should be prepared (16). Schumacher et al. recommended that geriatric training should become widespread via professional organizations, lectures, and online courses (17). Wang et al. have emphasized that each emergency unit should plan its own training program (18). In our study, most of the emergency specialists mentioned that a specific lecture committee should be prepared and geriatric patient care should be discussed at the end of each lecture; some of the specialists have mentioned that geriatric training could be better provided through courses.

In our study, 68.2% of the emergency doctors stated that they felt sufficient in approaching geriatric patients and 67% said that they felt sufficient in communication with geriatric patients. Contrary to our study, McNamara et al. reported that the emergency unit doctors found the training on geriatrics insufficient and thus, they felt themselves uncomfortable dealing with the geriatric patients (19). However Aksay et al. conducted a study on the present situation of emergency medicine training in Turkey; 60.7% of the specialists and 50.6% of the assistants have stated that their training and knowledge regarding the geriatric patients were sufficient, similar to the finding in our study (20).

McNamara et al. showed that emergency physicians most commonly faced the issues of abdominal pain, chest pain, dizziness, fever, headache and trauma when evaluating geriatric patients (19). In study reported by Prendergast et al., 86% of emergency medicine assistants stated that the most beneficial subject in the training programs was polypharmacy in geriatric patients (21). In our study, the subject that is mostly desired as a part of training for the specialists was drug interactions. In the geriatric population, due to widely prevalent polypharmacy, drug

interactions are common and patients may sometimes present to the emergency unit solely because of drug interactions.

In our study, the emergency specialists felt compassion, protectiveness and insufficiency; whereas the research assistants felt pity and stress. Similar to the study of Schumacher et al., the stress levels and feeling of pity decreased with the increase in the duration of occupation and age of research assistants. This may be explained by insufficient training and less experience of the research assistants compared with those of the specialists (17).

The performance of emergency units is threatened by problems such as overcrowding, long waiting, time extended stay at the emergency unit. As a result of the overcrowding in the emergency units, patient safety is compromised moreover, misdiagnosis and unexpected situations become more common.

The emergency unit staff is expected to deal with many public health problems including elder abuse. Elderly abuse is common in the emergency units; however, it is hardly known as a social health problem. The only person to detect the abused elderly patient is the doctor of the emergency unit. The duties of the doctor are increased awareness, public information, social services, and warning of judicial authorities. In a study, 75% of the emergency unit doctors have mentioned that child abuse protocols are built in the institutes they work; however, only 27% had protocols on elder abuse (22). In a survey conducted by the ACEP, it was reported that only 25% of the emergency unit doctors had been given training on elder abuse (23). In our study, 68.9% of the participants believed that elder abuse was possible, and 56.5% mentioned that there are patients who have experienced elder abuse that required reporting social services and judicial authorities. These low rates may be related to the heterogeneous group formed by the specialists and the research assistants, and awareness about elderly abuse would increase with experience. In our study 34.4% of the participants felt insufficient on the subject of elder abuse and needed training. The ACEP stated that emergency specialists should define abuse cases and report the suspected situations (23).

In every fields of medicine, ethical principles such as nonmaleficence, beneficence, respect for independence, non-discrimination, honesty and providing patient privacy are indispensable for the patient-doctor relationship. First to be expected from the doctor is non-discrimination of geriatric patients (3). Age is not the only factor that affects the frequency of cardiopulmonary resuscitation; however, it is a determining factor. In the near future, an increase is expected in the number of geriatric patients brought to the emergency unit due to sudden myocardial infarction (24). In two different studies in the literature, it was reported that age was an important factor in the treatment and requests of DNR by the doctors in the US, whereas in England, it was reported by the doctors that age was not an important factor (25). In our study, similar

to these opinions, 72.8% of emergency doctors reported no unwillingness to resuscitate a geriatric patient with cardiac arrest. However, it was concerning to find out the other 27.2% who mentioned the feeling of unwillingness. In Turkey, resuscitation is mandatory by law, and must be considered by the doctors. Additionally, the emergency unit doctors are willing to keep the patients alive. This was because the success obtained in cases of difficult resuscitations are used as an indicator of quality of the emergency unit. In our study, most of the participants were willing to resuscitate elderly patients due to the traditions of emergency medicine.

According to our study results we designed a geriatric training as a part of the emergency medicine curriculum: interactive case discussions, lectures. We discuss geriatric patient care at the end of each lecture. We designed research studies for this issue.

## LIMITATIONS

Our study was conducted as a survey and there is limitations about the surveys. We had only the answers of our questions. There can be another important questions we didn't ask about the geriatric patients. We couldn't reach most of the residents working research and training hospitals and research assistants. There would be better results and outcomes if we could reach more participant.

## CONCLUSION

According to the data obtained in our study, the number of geriatricians and geriatrics departments are insufficient in Turkey. There is no specific clinic that is responsible for the geriatric patients in the hospitals, thus problems are encountered on admissions to hospitals. Emergency doctors are not provided with a specific training about geriatrics and have difficulties in approaching them. It was observed that the emergency specialists in Turkey are aware of the problems with the increase in the number of geriatric patients. Training on geriatrics is insufficient and a new training program is needed on the subject.

*Competing interests: The authors declare that they have no competing interest.*

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*Ethical approval: The study was approved by the Ethics Committee of Gazi University Clinical Research on 18 January 2012.*

## REFERENCES

1. Fitzgerald RT. The Future of Geriatric Care in Our Nation's Emergency Departments: Impact and Implications. American College of Emergency 2008.
2. Kahn JH, Magauran B. Trends in geriatric emergency medicine. Emerg Med Clin North Am 2006;24:243-60, v. Review.
3. Kutsal YG (Ed) Aslan D (Ed Yrd). Basic Geriatric. Gunes Bookstores Ankara, 2007.
4. Wilber ST, Gerson LW. A research agenda for geriatric emergency medicine. Acad Emerg Med 2003;10:251-60.
5. Ariogul S. Geriatrics in Turkey. Akad Geriatri 2009;1:1-2.
6. Sahin S, Boydak B, Savaş S, et al. Features of Patients Older Than 65 years Presenting to Emergency Department. Acad Geriatric 2011;3:41-6.
7. Kekes Z, Koc F, Buyuk S. Review of Geriatric Patients Hospitalization in Emergency Department. J Academic Emergency Med 2009;8:21-4.
8. Ross MA, Comton S, Richardson D, et al. The use and effectiveness of emergency department observation unit for elderly patients. Ann Emerg Med 2003;41:688-77.
9. Shah MN, Glushak C, Karrison TG, et al. Predictors of emergency medical services utilization by elders. Acad Emerg Med 2003;1:52-8.
10. Karadag B, Cat H, Oztürk AO, et al. Profile of Patients Admitted and Observed at the Emergency Polyclinic: Three Years Examination. Acad Geriatric 2010;2:176-85.
11. Dede F. Epidemiological evaluation of patients older than 65 years presenting to Hacettepe University Adult Emergency Department between January 2005-December 2005. Ph.D. thesis. Hacettepe University. Ankara.2006.
12. Aminzadeh F, Dalziel WB. Older adults in the emergency department: a systematic review of patterns of use, adverse outcomes, and effectiveness of interventions. Ann Emerg Med 2002;39:238-47.
13. Arai H, Y Ouchi, M Yokode, et al. Toward the realization of a better aged society: messages from gerontology and geriatrics. Geriatr Gerontol Int 2012;12:16-22.
14. Shah MN, Heppard B, Medina-Walpole A, et al. Emergency medicine management of the geriatric patient: an educational program for medical students. J Am Geriatr Soc 2005;53:141-5.
15. Hogan TM, Losman ED, Carpenter CR, et al. Development of geriatric competencies for emergency medicine residents using an expert consensus process. Acad Emerg Med 2010;17:316-24.
16. Salvi F, Morichi V, Grilli A, et al. The elderly in the emergency department: a critical review of problems and solutions. Intern Emerg Med 2007;2:292-301.
17. Schumacher JG, Deimling GT, Meldon S, et al. Older adults in the Emergency Department: predicting physicians' burden levels. J Emerg Med 2006;30:455-60.
18. Wang HD. Beyond Code Status: Palliative Care Begins in the Emergency Department. Ann Emerg Med 2017;69:437-43.
19. McNamara RM, Rousseau E, Sanders AB. Geriatric emergency medicine: a survey of practicing emergency physicians. Ann Emerg Med 1992;21:796-801.
20. Aksay E, Sahin H, Kiyani S, et al. Current status of emergency residency training programs in Turkey: after 14 years of experience. Eur J Emerg Med 2009;16:4-10.



21. Prendergast HM, Jurivich D, Edison M, et al. Preparing the front line for the increase in the aging population: geriatric curriculum development for an emergency medicine residency program. *J Emerg Med* 2010;38:386-92.
22. Kleinschmidt KC. Elder abuse: a review. *Ann Emerg Med* 1997;30:463-72.
23. Vetere PM. Elder abuse: what are we missing? *Can Fam Physician* 2011;57:783-5.
24. Oh SJ, Kim JJ. Age is related to neurological outcome in patients with out-of-hospital cardiac arrest (OHCA) receiving therapeutic hypothermia. *Am J Emerg Med* 2018;36:243-7.
25. Cherniack EP. Increasing use of DNR orders in the elderly worldwide: whose choice is it? *J Med Ethics* 2002;28:303-7 .