

Causes and Solutions for Emergency Department Crowding: A Qualitative Study of Healthcare Staff Perspectives*



Acil Servis Kalabalıklığının Nedenleri ve Çözüm Önerileri:
Sağlık Personeli Perspektiflerinin Nitel Bir Çalışması

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Abstract

Introduction: Emergency Department (ED) crowding is a major problem globally. This situation leads to many negative consequences such as long waiting time, decreased satisfaction of patients and healthcare staff, delay in treatment of patients most in need of emergency care, decrease in the quality of healthcare provided and increase in healthcare costs. The aim of this study is to determine why patients prefer to use the ED, to identify the current problems of ED services and to develop solutions from the perspectives of ED healthcare staff in order to alleviate the ED crowding and related problems.

Methods: This study utilised a qualitative approach. In-depth semi-structured interviews were conducted with 22 ED healthcare staff between 20th December 2021 and 18th February 2022. Thematic analysis method was performed to analyse the data.

Results: Twenty-two ED healthcare staff were interviewed; 16 were male and 6 were female. ED healthcare staff interviews were conducted with 14 ED nurses, 6 ED doctors, and 2 ED consultants, who had at least 1-year of work experience in the ED, without any consideration of their gender or age. As a result of the data analysis, five main themes emerged: Insufficient healthcare system, patient-related problems, advantages of EDs, consequences of ED crowding, and solutions for ED crowding.

Conclusion: Insufficient healthcare system, advantages of ED, and patients' perceptions about using healthcare services led patients to use ED and subsequently to the ED crowding. There is a need for effective solutions to alleviate ED crowding. The precautions to reduce non-urgent ED visits are not enough. Many factors need to be considered and all of them should be applied together accordingly.

Keywords: emergency departments; emergency department visits; causes; consequences; crowding; solutions

Özet

Giriş: Acil servislerin aşırı kalabalıklığı küresel bir sorundur. Bu durum uzun bekleme süresi, hastaların ve sağlık personelinin memnuniyetinin azalması, acil bakıma en çok ihtiyaç duyan hastaların tedavisinin gecikmesi, sağlanan sağlık hizmetinin kalitesinin düşmesi ve sağlık bakım maliyetlerinin artması gibi birçok olumsuz sonuca yol açmaktadır. Bu çalışmanın amacı, hastaların acil servisleri neden kullanmayı tercih ettiklerini, acil sağlık hizmetlerinin güncel sorunlarını belirlemek ve acil servislerin kalabalıklığını ve buna bağlı sorunları hafifletmek için acil servis sağlık personelinin bakış açılarından çözüm geliştirmektir.

Yöntem: Bu çalışmada nitel desen kullanılmıştır. 20 Aralık 2021-18 Şubat 2022 tarihleri arasında 22 acil servis sağlık personeli ile derinlemesine yarı yapılandırılmış görüşmeler gerçekleştirilmiştir. Verilerin analizinde tematik analiz yöntemi kullanılmıştır.

Bulgular: 22 acil servis sağlık personeli ile mülakat yapıldı; 16'sı erkek, 6'sı kadındı. Acil servis sağlık personeli görüşmeleri, acil serviste en az 1 yıllık iş deneyimine sahip 14 acil servis hemşiresi, 6 acil servis doktoru ve 2 acil tıp uzmanı ile cinsiyetleri veya yaşları dikkate alınmadan gerçekleştirilmiştir. Veri analizi sonucunda 5 ana tema belirlenmiştir: Yetersiz sağlık sistemi, hastayla ilgili sorunlar, acil servislerin avantajları, acil servislerin aşırı kalabalıklığının sonuçları ve acil servis kalabalıklığı için çözümler.

Sonuç: Sağlık sistemindeki çeşitli yetersizlikler, acil servislerin avantajlarının olması ve hastaların sağlık hizmetlerini kullanma konusundaki algıları acil servislerin hastalar tarafından kullanımını arttırmış ve bu durum acil servislerde kalabalıklaşmaya sebep olmuştur. Acil servislerin kalabalıklığını hafifletmek için etkili çözümlere ihtiyaç vardır. Acil olmayan acil servis ziyaretlerini azaltmaya yönelik önlemler yeterli değildir. Acil servislerdeki kalabalıklığı azaltmak için birçok faktörün göz önünde bulundurulması ve hepsinin birlikte uygulanması gerekmektedir.

Anahtar Sözcükler: acil servisler; acil servis ziyaretleri; nedenler; sonuçlar; kalabalıklık; çözümler

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Introduction

Emergency Departments (EDs) are the units where the diagnosis and treatment of acute cases requiring immediate intervention and the ED environment could be chaotic and risky for staff and patients (1, 2). EDs aim to provide healthcare services quickly and high level of quality care (3-5). However, use of ED for non-urgent conditions contribute to ED crowding and associated problems (6). ED crowding is defined by American College of Emergency Physicians as the need for emergency services exceeds existing resources to provide care in the ED (7). Dealing with patients with non-urgent conditions in the ED has become an important pressure on ED healthcare staff and become a significant concern to ED directors and policymakers (6, 8).

ED crowding could have negative effects such as long waiting times, decreased quality of care and increased mortality rate (9-11). In addition, crowding is associated with increased workload and resource utilization (12, 13). ED crowding can result in delayed care, poor health outcomes, and higher risks of medical error (14).

EDs are stressful and crowded services for the staff working (15-17). Also, difficulties in the care of critically ill patients who come to the ED and communication with their relatives increase level of stress in staff (2). The presence of relatives of patients who are in panic and stress (18), time limitation in patient care services, unable to receive appropriate care due to crowding, and the fact that each patient perceived their condition is urgent and need immediate care caused ED staff to experience problems (15).

When examine the studies on ED crowding, even there are some studies on the causes of ED crowding, there is no sufficient number of studies regarding how to solve such important problem. The aim of this study is to determine why patients prefer to use the ED, to identify the current problems of ED services and to develop solutions from the perspectives of ED healthcare staff in order to alleviate the ED crowding and related problems.

Methods

This study utilised a qualitative descriptive approach. This approach focuses on perceptions that develop within the scope of people's lives.

This approach allows to collect data from those who experienced ED crowding and get detailed information about the perception shaped by their experiences (19).

Participants and settings

The participants were ED consultants, ED doctors and ED nurses. Participants were recruited by using convenience sampling method. In-depth semi-structured interviews were conducted with 22 participants between 20th December 2021 and 18th February 2022. Those who have at least 1 years of experiences in ED settings were included in this study. Twenty-three participants refused to participate in this study. Characteristics of participants were provided in Table 1.

The settings for this study were Diyarbakir Training and Research Hospital (4 ED nurses, 1 ED consultant, and 2 ED doctors), Mardin Training and Research Hospital (3 ED nurses and 2 ED doctors), Midyat Public Hospital (1 ED consultant, 1 ED doctor and 3 ED nurses), Kiziltepe Public Hospital (3 ED nurses), and Ceylanpinar Public Hospital (1 ED nurse and 1 ED doctor).

The interview schedule was developed and piloted by the researcher (A.B.). The interview schedule was provided in Table 2.

Procedure for the interviews

All interviews were conducted in Turkish and the interviews were audio-recorded. The aim of the study was explained to participants and their approval was obtained before commencing to the interview. The interviews were conducted in a private and quiet room. No behaviour or warnings were given to direct healthcare staff so that the healthcare staff who participated in the study could express their own opinions and experiences in the way they wanted. Duration of the interviews were between 18 to 30 minutes. Data saturation was reached as no new information was gathered from participants, and therefore data collection process was ended.

Ethical considerations

Ethical approval was obtained from Mardin Artuklu University Ethics Committee (Date: 14/12/2021, Ref: E-76272411-900-36850). In addition, the necessary permissions were obtained from Mardin Provincial Directorate of Health. Written informed consent was obtained from the participants.

Table 1. Characteristics of participants

Participants	Age (years)	Gender	Education	Occupation	Years of experiences	Work setting
P1	31-40	Male	Bachelor's degree	Nurse	0-5	Diyarbakir
P2	31-40	Male	Bachelor's degree	Nurse	11-15	Diyarbakir
P3	21-30	Male	PhD degree	ED consultant	0-5	Diyarbakir
P4	21-30	Male	Master's degree	Nurse	6-10	Diyarbakir
P5	21-30	Male	Bachelor's degree	ED doctor	0-5	Diyarbakir
P6	21-30	Female	Bachelor's degree	ED doctor	0-5	Diyarbakir
P7	41-50	Female	Bachelor's degree	Nurse	0-5	Diyarbakir
P8	21-30	Male	Bachelor's degree	ED doctor	0-5	Mardin
P9	41-50	Male	Bachelor's degree	ED doctor	11-15	Mardin
P10	31-40	Female	Bachelor's degree	Nurse	11-15	Mardin
P11	31-40	Male	Bachelor's degree	Nurse	0-5	Mardin
P12	41-50	Male	High school	Nurse	16+	Mardin
P13	21-30	Male	Bachelor's degree	Nurse	0-5	Midyat
P14	21-30	Male	Bachelor's degree	Nurse	0-5	Midyat
P15	21-30	Male	Bachelor's degree	Nurse	6-10	Midyat
P16	21-30	Male	Bachelor's degree	ED doctor	0-5	Midyat
P17	31-40	Male	PhD degree	ED consultant	6-10	Midyat
P18	21-30	Male	Bachelor's degree	Nurse	0-5	Kızıltepe
P19	31-40	Male	Bachelor's degree	Nurse	0-5	Kızıltepe
P20	41-50	Female	Master's degree	Nurse	0-5	Kızıltepe
P21	21-30	Female	Bachelor's degree	Nurse	0-5	Ceylanpinar
P22	21-30	Female	Bachelor's degree	ED doctor	0-5	Ceylanpinar

Question 1	Can you give general information about the emergency department you work in? Prompts: Types of patients (rich/poor; urban/rural), number of staff, number of patients per day, etc.
Question 2	Do you think the emergency department is crowded? Prompts: In what time period is the ED crowding usually occurs?
Question 3	What problems does the ED crowding cause? Prompts: Resource utilisation, communication problems, staff perspectives, patient perspectives?
Question 4	Can you allocate enough time for patients who visited the ED?
Question 5	What are the most important problems experienced by ED staff while working in the ED?
Question 6	Do patients with non-urgent conditions visited the ED frequently?
Question 7	Why do people/patients visit the ED? Why do they prefer the ED?
Question 8	How we could reduce the number of patients with non-urgent conditions from visit the ED?
Question 9	Is the patient care and treatment process delayed due to ED crowding? Is the quality of care and treatment decreasing in the ED? What are your suggestions to prevent such negative consequences?
Question 10	What are the solutions to reduce the ED crowding? Prompts: Tell me more about this? Explain? How? Barriers? Facilitators? Etc.

Main themes	Themes
Insufficient healthcare system	<ol style="list-style-type: none"> 1. Unable to get appointment from outpatient clinics 2. Lack of out-of-hours services 3. Having problems with general practitioners
Patients-related problems	<ol style="list-style-type: none"> 1. Perceived urgency 2. Level of health literacy
Advantages of EDs	<ol style="list-style-type: none"> 1. Easy access 2. Receiving treatment immediately 3. Having adequate tests
Consequences of ED crowding	<ol style="list-style-type: none"> 1. Decreasing in the quality of treatment and care in the ED 2. Unable to provide timely care for urgent patients 3. Unable to allocate sufficient time to patients 4. Increase healthcare cost 5. Cause communication problems 6. Negative effects on ED staff
Solutions for ED crowding	<ol style="list-style-type: none"> 1. Increasing health literacy in the community 2. Improving healthcare system 3. Improving staff satisfaction 4. Improving patients' satisfaction

Data analysis and rigor

The audio-recorded interviews were transcribed in Turkish by the researcher (A.B.) with multiple checks carried out to ensure data accuracy. Any information which could potentially identify participants was anonymised where necessary. Thematic analysis method was used to analyse the data. NVivo software was used to manage data analyses process. Member checking was conducted with 3 ED staff to ensure that the generated themes accurately reflected their narratives.

Results

Twenty-two ED healthcare staff were interviewed; 16 were male and 6 were female. The participants were aged between 21-30 (n=12), 31-40 (n=6) and 41-50 (n=4). ED staff interviews were conducted with 14 ED nurses, 6 ED doctors, and 2 ED consultant, who had at least 1-year of work experience in the ED, without any consideration of their gender or age. The years of experiences in the ED were 0-5 years (n=15), 6-10 years (n=3), 11-15 years (n=3), and 16+ years (n=1). The results were categorised in 18 themes under 5 main themes (Table 3).

Main theme 1: Insufficient healthcare system

Three themes emerged: Unable to get appointment from outpatient clinics, lack of out-of-hours services, and having problems with General Practitioners (GPs). The data showed that those who had difficulties with the healthcare system choose to use the ED in order to access a healthcare service and receive care. The interviewed ED healthcare staff reported that some patients arrived to the hospital, however, were unable to access the outpatient clinics and then they use to the ED for their health conditions. This is illuminated as follows:

“People cannot get appointment for outpatient clinics. Even if they get, they do not want to wait for a long time because the appointments are given to a later date.” (P9, Nurse, Mardin).

In addition, there is no out-of-hours services in Turkey and those who need care after office hours visit the ED to receive care. The EDs are only available healthcare services during out-of-hours. Lack of out-of-hours services contributes to the ED crowding.

“Crowding is usually occurring at the weekend when there is no available outpatient clinics. Patient cannot go to the clinics at the weekend and therefore visit the ED. In general, we are very busy at weekends and on official holidays.” (P1, Nurse, Diyarbakir).

Also, having problems with GP and GP practices lead people to use the ED rather than using GP practices again. Unable to meet with patients need in GP practices lead patients to visits the ED instead of these services.

“I think that GP practices do not work effectively in Turkey because the patient who went there is referred to the hospital by their GP.” (P20, Nurse, Diyarbakir).

Main theme 2: Patients-related problems

Two themes were emerged: Perceived urgency and level of health literacy. The data showed that some patients perceived their health conditions as urgent and immediately visit the ED. Such perceptions usually occurred among parents for their children. In addition, low level of health literacy, especially insufficient knowledge regarding how to use healthcare services appropriately and in which conditions they should use the ED contributes to ED crowding. These were illuminated as follows:

“According to every parent, their child’s condition is urgent. It is difficult to prevent such perception for parents. When they feel their child’s condition is urgent, they visit the ED” (P20, Nurse, Diyarbakir).

“Patients do not know what the word “urgent” means and think that they can go to the ED at any time even if their health condition is not urgent” (P9, Nurse, Mardin).

Main theme 3: Advantages of EDs

Three themes were emerged: Easy access, receiving treatment immediately, and having adequate tests. Participants stated that the EDs have easy access and patients could visit the ED without getting an appointment. Also, participants thought that they could receive treatment and getting their test results more quickly. These sentiments were supported as follows:

“Access to the ED is easier. They can come without getting an appointment.” (P7, Doctor, Mardin).

"...patients want to get test results quickly and want to receive a quick treatment..." (P9, Nurse, Mardin).

Main theme 4: Consequences of ED crowding

Six themes were emerged: decreasing in the quality of treatment and care in the ED, unable to provide timely care for urgent patients, unable to allocate sufficient time to patients, increase healthcare cost, cause communication problems, negative effects on ED staff.

Participants stated that ED crowding decrease the quality of treatment and care provided in the ED. ED staff struggled to provide adequate and quality care to patients due to high volume of patients in the ED. In addition, high volume of patients with non-urgent conditions prevent ED staff to provide timely care for patients with urgent conditions. Moreover, participants stated that high volume of patients in the ED increase the healthcare cost, and lead to communication problems between patients and ED staff. These issues were provided as follows:

"The most important problem caused by the ED crowding is that patients with urgent conditions could not care adequately or prevent them from receiving appropriate medical care. We could not allocate enough time for patients in the ED. In order to ensure patient circulation in the ED, we are working fast, treat patients quickly. This could lead to miss something important in the treatment." (P7, Doctor, Mardin).

"Too much expense is made for patients with non-urgent conditions and resources are wasted." (P9, Nurse, Mardin).

In addition, the data revealed that ED crowding has negative effects on ED staff. These negative effects are dissatisfaction of staff, tiredness, difficult working conditions, staff attrition, and unable to allocate time for social life.

"ED staff could not even meet their basic needs because of providing care for patients constantly. This also causes nervousness and stress in the staff" (P10, ED consultant, Midyat).

Main theme 5: Solutions for ED crowding

Four themes were emerged: increasing health literacy in the community, improving healthcare system, improving staff satisfaction, and improving patients' satisfaction.

Increasing health literacy in the community regarding how to use healthcare services appropriately could let them to make more appropriate decision on use of healthcare services. Also, knowing the symptoms of some basic illnesses and how to deal with these could let patients to deal with them rather than visiting a healthcare service directly. Participants stated that such health literacy could be increased by brochures, posters, TV advertisement and informing them during their visits. In addition, participants claimed that increasing ability of provide self-care could decrease the number of non-urgent ED visits as these could try self-care rather than visiting the ED directly. These were illuminated as follows:

"Health literacy of people should be increased" (P9, Nurse, Mardin).

"Quality of healthcare services could be increased by raising awareness of patients, and such awareness can be raised with brochures and posters" (P14, Nurse, Kiziltepe).

In addition, improving triage system, improving referral system, making GP practices more functional, improve the physical conditions of the ED, increase the number of beds in the ED, and increase the number of outpatients clinics could reduce the number of ED visits and therefore alleviate the ED crowding. Some participants stated that people could visit the ED whenever they want and therefore this causes crowding in the ED. This sentiment is provided as follows:

"...patients can visit the ED whenever they want even for their non-urgent conditions, and this cause crowding in the ED" (P7, Doctor Mardin).

Also, improving GP practices and make them more functional could results in reduction of ED visits as patients patients could use GP practices rather than the ED for their routine and non-urgent conditions. This is illuminated as follows:

"Treatment and care units should be established in GP practices, and material and medicine support should be provided. Since our people want quick intervention, GP practices should be developed in this regard." (P23, Nurse, Mardin).

In addition, the results revealed that ED healthcare staff are working under difficult

environment and they expected some solutions like improving their working conditions, prevent them from long working hours and ensure their security during working in ED environment. Improving staff satisfaction could lead to staff retention and improve ED care.

“ED staff are really tired due to the COVID-19 pandemic for 2 years, we cannot go home because of the crowding, we are very overwhelmed. Solutions should be found for these problems.” (P22, Doctor, Diyarbakir).

Discussion

Insufficient healthcare system including unable to get appointment from outpatient clinics, lack of out-of-hours services, and having problems with GPs lead to patients seeking care in the ED, which could contribute to ED crowding. These results are consistent with the existing literature (15, 20-24). Therefore, improving healthcare system by addressing these issues could potentially alleviate ED crowding. Having capacity and better infrastructure to assess patients in outpatient clinics and in GP practices in addition to introducing out of hours services might be effective in reducing ED visits.

Patients commonly used the ED due to perceived their condition is urgent as well as their low level of health literacy, insufficient knowledge regarding how to use healthcare services appropriately contributes to ED crowding. These results confirmed the existing literature (15, 24-27). Increasing health literacy could be a solution to reduce the number of ED visits (6). Increasing health literacy could lead patients to have more appropriate navigation of healthcare services, and therefore visits primary care services rather than the ED. It is important for patients to seek care from the appropriate healthcare provider based on their medical needs.

Patients use the ED due to its advantages over other healthcare services. Having easy access, receiving treatment immediately, and having adequate tests compared to other healthcare services affect patients' decision to use the ED. In accordance with the present study results, previous studies have demonstrated that patients have visited the ED due having relatively easy access, no requires appointment, receiving care faster, and access to all tests in the ED (28-30).

ED crowding has many negative consequences on patients, ED staff and healthcare system. The results of this study revealed that ED crowding cause a decrease in the quality of treatment and care in the ED, unable to provide timely care for urgent patients, unable to allocate sufficient time to patients, increase healthcare cost, cause communication problems, and negative effects on ED staff. In line with the results of this study, the literature supports that ED crowding directly affected medical care, raises the risk of morbidity and mortality among hospitalised patients, and increase healthcare cost (10, 31). According to a study by Xu et al. (16), high level of workload and crowding were ranked as high-stress, high-exposure events for ED staff.

As regards to solutions for ED crowding, increasing health literacy in the community, improving healthcare system, improving staff satisfaction, and improving patients' satisfaction could alleviate ED crowding. In line with the results of this study, some studies stated that increasing health literacy in the community may decrease non-urgent ED use (15, 32).

Introducing these interventions could help reduce non-urgent ED visits, decrease the burden placed on the healthcare staff, improve patient outcomes, and create a more positive work environment. Taking an appropriate actions against reducing non-urgent ED visit is needed to better meet service user needs and to increase the satisfaction of both parents and healthcare staff (15).

Limitations and future research

Since the nature of qualitative research, the results might not be generalisable to a wider population and settings. In addition, the small sample size that may not fully reflect all possible perspectives. However, these results may inform policymakers, ED directors or other key stakeholders across Turkey and other countries which have similar contexts.

Future research could focus on how to improve patients experiences in the ED settings and better meet the needs of patients. In addition, identifying the level of health literacy of ED patients and how to increase their health literacy is needed in order to alleviate ED crowding.

Conclusion

Insufficient healthcare system, advantages of EDs,

and patients' perceptions about using healthcare services led patients to use ED and subsequently to the ED crowding. There is a need for effective solutions to alleviate ED crowding. The precautions to limit non-urgent ED visits are not enough. In conclusion, addressing ED crowding requires a system-wide approach. Many factors need to be considered and all of them should be applied together accordingly. While increasing the number of ED staff and beds may help alleviate some of the issues related to ED crowding, it is important to note that simply adding more resources without proper analysis of the impact on the system may not be effective. Improving the efficiency of the ED process may also help alleviate crowding, but it is important to address the root causes of crowding, such as lack of access to outpatient clinics and primary care providers, to effectively address the issue. This study may assist researcher, ED reformers and policy makers to reduce non-urgent ED visits.

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This study has been presented as oral presentation at the 3rd "ACHARAKA" Medicine Nursing and Health Congress in 2023 in İzmir, Turkey.

Competing Interest

No competing interest.

Compliance of Ethical Statement

Ethical approval was obtained from Mardin Artuklu University Ethics Committee (Date: 14/12/2021, Ref: E-76272411-900-36850). In addition, the necessary permissions were obtained from Mardin Provincial Directorate of Health. In addition, written informed consent was obtained from the participants.

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Author Contributions

Study idea/Hypothesis: AB; Data preparation: AB; Analysis: AB; Literature review: AB; Manuscript writing: AB; Critical Review: AB

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