

ORIGINAL RESEARCH

Awareness of importance of triaging in emergency department in Kingdom of Saudi Arabia

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Abstract

The emergency department (ED) is an important component of a healthcare system. Increased rates of visiting the ED, even for non-urgent cases, makes it necessary to prioritize patients who require immediate care over those who can wait. This process is called triage. However, although triage helps to deliver efficient service for the more needy patients, it results in delays for others, who may be left unsatisfied as a result. The aim of this research is therefore to assess the public awareness about triage in the ED and its importance in delivering improvements in healthcare in the Kingdom of Saudi Arabia. To this end, a cross-sectional research method was adopted to conduct a study on the Saudi population between the periods from 01 November 2022 to 31 November 2022. The study used a self-administrated, validated and translated electronic questionnaire. SPSS software version 23 was used for data analysis. The study included 2056 participants, who reported the major causes for the last ED visit to be abdominal pain (26.4%) and headaches (14.4%). The mean \pm standard deviation (SD) score of knowledge was 8.79 ± 2.13 . Moreover, this mean significantly differed between educational levels ($p < 0.001$), current jobs ($p = 0.001$), and residence ($p < 0.001$). The majority (82.9%) reported that increasing the working hours of primary healthcare (PHC) centers would reduce the ED's crowdedness. The data thus showed there was inadequate knowledge and some gaps regarding triage in the ED among the public population in Saudi Arabia. Educational level, current job and residence were determinants for the level of knowledge. Allocating specialized physicians, improving the primary health care centers facilities, as well as increasing the working hours of the Primary Health Care (PHC) will reduce pressures on EDs.

Keywords

Awareness; Triage; ED; Importance

1. Introduction

The emergency department (ED) is one of the most important compartments of the health delivery system [1]. EDs are thus a significant department in many hospitals [2]. The coexistence of non-urgent walk-in patients and acute emergencies nonetheless poses challenges, as delivering prompt treatment for the latter can result in a decline in the quality of emergency services for the former, alongside increases in overall costs [3]. Recently, in most hospitals the ED is the most crowded department and this creates accessibility issues for most patients [4].

Triage is the process of categorizing patients in the ED according to their need for medical care, regardless of their order of arrival, alongside other factors such as age, gender, insurance, socioeconomic status, nationality, race, religion or residential status. Triage involves the assessment of prioritized ED patients needing immediate care in accordance with times

urgency and clinical severity, compared with patients with non-urgent diseases who can wait longer to be seen or those who need a referral to more appropriate healthcare settings [5].

Research indicates most ED visits are non-urgent cases, which leads to unnecessary costs and many adverse consequences. For example, in three Ministry of Health hospitals located in Saudi Arabia, a study discovered more than half (53%) the patients who visited the ED did not require urgent care. Furthermore, 68.5% of these non-urgent cases visited the ED three to four times yearly [6]. The utilization of EDs by patients who do not require urgent medical attention has emerged as a significant public health concern both on a local and global scale [7].

Increased numbers of patients visiting the ED results in long waiting times, overcrowding and poorer patient satisfaction [2]. Reducing ED wait times nonetheless presents a significant challenge. However, explaining how the process of providing health services works and interacting with short waiting times

may help boost patient satisfaction. This is why improving patient education is essential [8]. There is however a lack of studies assessing the knowledge and awareness of patients about the importance of the triage system in EDs in Saudi Arabia, which was the rationale for this study.

2. Subjects and methods

2.1 Research questions

What is the level of public awareness regarding the use of triage in EDs in the Kingdom of Saudi Arabia? Moreover, what interventions can be implemented to improve the load on emergency departments (such as allocating specialized physicians, improving the PHC facilities, along with increasing their working hours)?

2.2 Study design, subjects and tools

This study was cross-sectional and conducted on the Saudi public population, including males and females. The calculated sample size was estimated to be 383, but a total of 2056 individuals participated. The questionnaire was distributed across five regions of the Kingdom of Saudi Arabia (KSA). The breakdown of participants was: central region, 20.9%; northern region, 18.5%; southern region, 18.7%; eastern region, 21.7%; and western region, 20.2%. The inclusion criteria were persons from the Saudi population, who were over 18 years old, and visited an emergency room (ER).

The study was conducted between the period from 01 November 2022 to 31 November 2022. A self-administrated, validated and translated electronic questionnaire was used to assess the knowledge, attitude and practice of the participants. Each participant made a voluntary choice to participate in the study, with information provided at the start of the questionnaire which enabled them to provide informed consent. The development of the questionnaire was in part based on a questionnaire in a previous study [9]. The survey questions included demographic details, reasons for visiting the ED, alongside knowledge and attitude towards the triage system. Any questionnaire with incomplete data was removed from the study.

2.3 Statistical analysis

The Statistical Package for Social Sciences (SPSS) software version 23 (SPSS Inc., Chicago, IL, USA) was used for data analysis. Numbers and percentages were used for the representation of categorical data, whereas mean and standard deviation was used for numerical data. The Chi-square test was used to compare the results. A p -value ≤ 0.05 was considered significant.

The authors used descriptive statistics and the chi-square test to analyze the data. While they did not explicitly mention considering the choice of statistical method based on the data distribution, the chi-square test is generally suitable for analyzing categorical data like the variables in this study. However, additional information about the specific data distribution and any assumptions made for the statistical tests would be helpful for a more comprehensive analysis.

F test values denote the overall significance of a regression model, which means it assesses whether there is a significant relationship between the independent variable(s) and the dependent variable. χ^2 (chi-square test) is used to test the independence or association between two categorical variables.

3. Results

The 2056 participants provided demographic information like age, gender, education level, current employment, nationality, place of residence and income. The data is shown in Table 1.

TABLE 1. Participant demographic data.

Variable	Number	%
Age Group		
18–25	1134	55.2
26–35	339	16.5
36–45	287	14.0
46 and more	296	14.4
Gender		
Female	1142	55.5
Male	914	44.5
Education Level		
Primary education	17	0.8
Middle Education	70	3.4
Secondary education	684	33.3
High education	1172	57.0
Postgraduate education	113	5.5
Current Job		
Student	941	45.8
Unemployed	340	16.5
Government sector (not health)	271	13.2
Private sector (not health)	113	5.5
Health sector	125	6.1
Military sector	70	3.4
Private work	48	2.3
Others	148	7.2
Nationality		
Saudi	1979	96.3
Not Saudi	77	3.7
Residence		
Central Region	429	20.9
Northern Region	340	16.5
Western Region	498	24.2
Southern Region	343	16.7
Eastern Region	446	21.7
Income		
Less than 5000 SR	1187	57.7
5000 to 10,000 SR	311	15.1
10,000 to 15,000 SR	313	15.2
More than 15,000 SR	245	11.9

SR: Saudi Riyal.

The participants were asked about their last visit to the ED. The major causes of ED visits were abdominal pain (26.4%), headaches (14.4%), and chest pain (11.1%). Other health problems are shown in Table 2.

TABLE 2. The health problem that led to the last emergency visit.

The health problem	Frequency	%
Suspecting Stroke	52	2.5
Chest Pain	228	11.1
Attack of asthma	100	4.9
Abdominal Pain	543	26.4
Headache	296	14.4
Road traffic accident	81	3.9
Suspicion of fracture at body limbs	161	7.8
Renal colic	74	3.6
Scorpion or snake bite	14	0.7
Seizures	13	0.6
Decreasing in blood sugar level	67	3.3
A wound that needs surgical sutures	132	6.4
Head trauma	34	1.7
Falling down from a height	38	1.8
Rearrange missing appointment	71	3.5
Refilling medication	152	7.4

Data concerning the circumstances of the ED visit, when the health problem started, who was the patient, the type of hospital, along with other variables, are shown in Table 3. The largest proportion of participants reported that the health problem started the same day as the ED visit (47.6%), that the patients were the participants themselves (56.3%), and that a government hospital was where they attended (71.7%). Most participants did not try to visit a PHC facility (72.3%).

TABLE 3. ED visit data.

Variable	Number	%
When the health problem started		
Same day	979	47.6
In a week	506	24.6
More than a week	191	9.3
A long-term chronic problem	380	18.5
Who was the patient		
The participant himself or herself	1158	56.3
A family member	699	34.0
A friend	71	3.5
A coworker or others	128	6.2
Type of the hospital		
Government Hospital	1474	71.7
Private Hospital	455	22.1
Military Hospital	100	4.9
University Hospital	27	1.3
Try to go to PHC Facility		
Yes	570	27.7
No	1486	72.3
Was the case initially classified as a critical case		
Yes	543	26.4
No	1042	50.7
Do not know	471	22.9

ED: emergency department; PHC: primary healthcare.

Just over half of the cases were not classified as critical (50.7%), though at the same time just under a quarter of study participants did not know how their case was categorized (22.9%). The major causes are in turn shown in Table 4. The most reported causes were being too sick, so needed the ED (64.8%), along with close to where they live or work (46.2%). The other causes rated less than 30%.

TABLE 4. ED visit cause.

The cause of heading directly to the emergency	Frequency	%*
Too sick-need the emergency department	1334	64.8
Close to where I live/work	950	46.2
Faster to see a doctor in the emergency department	526	25.5
No appointments available at other healthcare centers	420	20.4
Regular go to the emergency department for care	389	18.9
Need tests not available in other healthcare centers	346	16.8
Care is better in the emergency department	330	16.1
No file in other healthcare centers	151	7.3
A doctor advised me to go to the emergency department directly	147	7.1
Medical insurance coverage & eligibility for treatment	106	5.1
Other financial reasons	73	3.5
Others	435	21.1

*% adds to more than 100 as multiple responses were taken.

Table 5 presents the reasons for heading directly to a certain emergency department. The most reported causes were hospital resources (63.6%) and other causes (59.8%).

Participants' knowledge about the triage system was investigated through ten questions. The results are shown in Table 6.

TABLE 5. Cause for heading directly to a certain ED department.

The cause	Frequency	%
Hospital resources	1308	63.6
Speed of care	1021	49.6
Close to where I live/work	950	46.2
The reputation of medical staff	847	41.2
Insurance coverage or eligibility for treatment	366	17.8
A doctor advice	301	14.6
Others	1231	59.8

TABLE 6. Participant knowledge about triage system.

Knowledge item	Frequency	%
Know why some patients are taken to ER before others		
Yes	1589	77.3
No	467	22.7
Think it's fair that some patients are taken to ER before others		
Yes	1708	83.1
No	348	16.9
Know what triaging means		
Yes	1146	55.7
No	910	44.3
Want to know how long other patients have been waiting		
Yes	1516	73.7
No	540	26.3
Want to know why you have to wait		
Yes	1783	86.7
No	273	13.3
Want to hear updates about the delay		
Yes	1913	93.0
No	143	7.0
Duration between updates		
Every 15 min	1319	64.2
Every 30 min	613	29.8
Every 1 h	92	4.5
Every 2 h	15	0.7
Every 3 h	17	0.8
Who should update you		
A clerk	755	36.7
A nurse	683	33.2
A physician	87	4.2
Does not matter	531	25.8
Want to know more about the ER department functions		
Yes	1599	77.8
No	457	22.2
How the information about ER departments delivered*		
A video played in the waiting room	1277	62.1
Social media	868	42.2
Handouts	521	25.3
A computer with an educational module on it	334	16.2
Others	194	9.4

The difference in knowledge was evaluated regarding different variables. There was no significant difference in the level of knowledge ($p = 0.1$). There was also no significant difference between the mean score of knowledge regarding gender ($p = 0.6$). However, significant differences in the mean score of knowledge were found for educational level ($p < 0.001$), current job ($p = 0.001$), and residence ($p < 0.001$). The mean score of knowledge did not vary between different incomes ($p = 0.2$) or nationality ($p = 0.3$), all these information shown in Table 7.

There were five questions used to assess the importance of information in the ED. Each question has four answers, either not important at all, not important, important or very important (Table 8). Both medical conditions (42.3%) and updates about the delays (41%) were considered very important. The highest proportion of participants reported that common illness (43.2%) and the healthcare system (43%) were important.

The time taken for some procedures was investigated. The procedures included laboratory results, X-rays, computed tomography (CT) scans, consultation with another doctor, and getting a bed (Table 9). The most reported time was less than half an hour for X-rays (48.5%), consultation with another doctor (42.5%) and getting a bed (46.5%). This was followed by half an hour to one hour for laboratory results (36.3%) and a CT-scan (31.1%).

The attitude of participants in respect how to improve primary healthcare to prevent overutilization of the ED was assessed *via* four questions (Table 10). The absence of a specialized doctor was the main cause of going to the ED directly, as reported by most participants (80.1%). A large majority (89.3%) agreed that having a PHC center with an emergency doctor and expert nursing staff, along with an ambulance, would save time and effort in accessing health services. The majority agreed that the opening time of PHC centers must be 16–24 hours/day (80.8%). The majority (82.9%) also agreed that increasing the working hours of the PHC centers would reduce the crowdedness in the ED.

4. Discussion

The ED is a crucial component of the healthcare delivery system, with triage an important part of the ED. In the current study, however, only 55.7% of participants knew about triage, although 77.3% knew why some patients were admitted to the ER before others. This may mean many people know about the triage system, just not the specific term. By contrast, a study based in Opole, Poland, showed that 90% of participants knew what triage is [10]. This proportion is much higher compared with our study.

Triage helps prioritize treatment based on acute clinical need, however it can lead to long waiting times for some patients with non-urgent conditions, which may in turn affect the patient's satisfaction along with the quality of service delivered. In one study from Saudi Arabia, it was found that waiting time was a significant modifiable risk factor for patient satisfaction [11]. Therefore, it is necessary to understand and assess the knowledge of patients about the triage system, to know if the ED waiting time is a major factor affecting patient decisions about what health care facility to visit in emergency

TABLE 7. Participants' data results.

Variable	Knowledge Score		F	p value
	Mean	Std. Deviation		
Age group				
18–25	8.8660	2.18307	1.8	0.1
26–35	8.5634	2.03910		
36–45	8.8502	2.12096		
46 and more	8.7466	2.09438		
Educational level				
Primary education	7.6471	1.99816	8.8	<0.001
Middle education*	7.4429	2.14433		
Secondary education	8.8143	2.00637		
High education	8.8746	2.13757		
Current job				
Health sector*	9.4560	1.91557	3.4	0.001*
Military sector	8.4714	2.18507		
Unemployed	8.5765	2.15957		
Private work	8.5208	1.97850		
Residence				
Central Region	8.7599	2.24247	3.8	<0.001
Northern Region	8.9118	1.96830		
Western Region	8.8695	2.06656		
Southern Region*	8.4140	2.24339		
Eastern Region	8.9574	2.13699		
Income				
Less than 5000	8.7734	2.13302	1.4	0.2
5000 to 10,000	8.7460	2.02638		
10,000 to 15,000	8.7284	2.13481		
More than 15,000	9.0612	2.30829		
Variable	Knowledge Score		χ^2	p value
	Mean	Std. Deviation		
Gender				
Males	8.7724	2.11930	0.4	0.6
Females	8.8161	2.15714		
Nationality				
Saudi	8.8060	2.14366	1.04	0.3
Not Saudi	8.5584	2.04227		

TABLE 8. Participants' responses about the importance of information in the ED.

Information	Not important at all	Not important	Important	Very important
	N (%)	N (%)	N (%)	N (%)
Updates about the delays	171 (8.3)	168 (8.2)	875 (42.6)	842 (41.0)
About Common illnesses	146 (7.1)	305 (14.8)	888 (43.2)	717 (34.9)
About the health care system	152 (7.4)	340 (16.5)	884 (43.0)	680 (33.1)
About triage and how the emergency department functions	184 (8.9)	398 (19.4)	860 (41.8)	614 (29.9)
About medical conditions	182 (8.9)	246 (12.0)	758 (36.9)	870 (42.3)

TABLE 9. Time taken by some procedures according to the study respondents.

Time is taken by the procedures	Less than half an hour		Half an hour to one hour		One to two hours		Two to three hours		More than three hours	
	N	%	N	%	N	%	N	%	N	%
Laboratory results	723	35.2	747	36.3	375	18.2	131	6.4	80	3.9
X-rays	997	48.5	646	31.4	272	13.2	94	4.6	47	2.3
Ct-scans	658	32.0	702	34.1	462	22.5	151	7.3	83	4.0
Consultation with another doctor	874	42.5	680	33.1	334	16.2	113	5.5	55	2.7
Getting a bed	957	46.5	598	29.1	326	15.9	118	5.7	57	2.8

TABLE 10. Respondents' views about how to improve PHC to prevent overutilization of emergency departments.

Attitude item	Frequency	%
The cause of going to the emergency department directly without going to primary health care is that there is no specialized doctor		
Yes	1646	80.1
No	410	19.9
Having a primary health care center with an emergency doctor and expert nursing staff, and an ambulance would save your time and effort		
Yes	1837	89.3
No	219	10.7
Working time in primary health care centers must be 16 or 24 h		
Yes	1662	80.8
No	394	19.2
If working hours of the primary health care centers have increased, the crowdedness in the emergency department will decrease		
Yes	1704	82.9
No	352	17.1

situations. As there is a lack of studies focusing on this subject in a Saudi Arabian setting, this study was conducted.

It can be inferred that one strategy to improve the burden on emergency departments is to reduce waiting times for patients with non-emergency conditions. This can also be achieved through the implementation of measures to streamline the screening process and ensure that patients receive appropriate care in a timely manner.

In our study, the mean level of knowledge was low (8.79%). Regarding each aspect of knowledge assessed, the highest level of participant knowledge was found in respect why it is fair for some patients to be taken to the emergency room (ER) before others (83.1%). In a previous study conducted on the Saudi population to assess their knowledge regarding triage in the ED during the COVID-19 pandemic, it was found that the majority of participants (80%) knew the reason that some patients are taken to the ER before others; moreover, 85.3% thought this was fair [9].

Similar to our findings, Seibert *et al.* [12] revealed that 51.2% of patients correctly reported the definition of triage. Worse findings compared with ours were reported by Alhabdan *et al.* [8], who demonstrated that the knowledge of the triage system in a single hospital in Riyadh, Saudi Arabia, was just 24%. Another Saudi study conducted on 389 participants who visited an ED revealed that 66.2% have no knowledge about triage [2]. These findings were thus lower than our studies.

In the current study, most participants (73.7%) wanted to know how long other patients had been waiting. In a previous Saudi study of ED patients, a lower proportion (57%) of participants wanted to know how long other patients had waited [2]. In another study, the factors affecting the decision of patients to visit a specific ED were investigated. It was found that, of 634 participants, 44% reported distance was the major reason for choosing that ED over other facilities, whereas 9.3% cited waiting time [13]. The study found that the primary reason for directing patients to the ED was their urgent need for medical attention (64.8%). Hospital resources and the speed of care were the primary factors in directing patients to a specific ED, while distance ranked third. Of those who reported a reason for proximity, 46.2% cited the ED being located near to their place of work or residence.

Other studies showed that high proportions of patients reported the cause of visiting the ED was the urgency of their conditions, even if triage classified them as non-urgent [14]. More than half our study participants were not classified as critical cases. Moreover, many patients complain of ED delays due to reasons such as hospital equipment, physicians or transportation. Sometimes, the delay is due to waiting for the pharmacy to provide medication or required supplies [15]. Patients also often wait for a long time before they meet the physician and must wait even longer to be transferred to a hospital bed. This, in turn, results in a deterioration of the

overall outcomes of the patients [9].

In our study, 42.5% of participants reported that consultation with another doctor takes less than half an hour. In another study, the expectations of patients regarding waiting times for laboratory and imaging results varied significantly, and the expectation of patients for a CT-scan was 30–94 minutes [12]. In the current study, regarding CT-scans, the largest proportion (34.1%) reported a half an hour to one hour, which was similar to a previous study [12]. Moreover, the largest proportion (36.3%) regarding laboratory results reported 30–90 minutes.

5. Limitations

Because of the nature of the study, recall bias is one of the limitations, as the participants attempt to remember their last ED visit to complete the questionnaire. Moreover, as the research was conducted through an electronic questionnaire, social-desirability bias is another limitation.

6. Conclusions

In conclusion, the triage process is essential for the operation of EDs, since it helps distinguish between patients who need immediate attention and those who can wait. Long wait periods, however, can cause dissatisfaction among patients and degrade the quality of the care given.

55.7% of participants in our study indicated that they were aware of the triage system, indicating that patients are not especially well-informed about it. It was discovered that knowledge was influenced by place of residence, present employment and education level. Patient expectations on the length of time they should expect to wait for doctor consultations as well as results from lab and imaging tests were also evaluated, with mixed findings found.

To increase patient happiness and overall outcomes, health-care practitioners must aim to better inform patients about the triage system and to shorten wait times. Future research is required to examine additional elements that may influence Saudi Arabian patients' expectations and knowledge of ED visits.

AVAILABILITY OF DATA AND MATERIALS

The data used to support the findings of this study are included in the article.

AUTHOR CONTRIBUTIONS

KSA and FHA—conceptualization, supervision; JAA—methodology, visualization; FHA—software, resources; SAA—validation, formal analysis, writing—original draft preparation; KSA and SAA—investigation; JAA and KFA—data curation; KFA—writing—review and editing; KSA, JAA and KFA—project administration. All authors have read and agreed to the published version of the manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The College of Medicine's Committee of Scientific Research and Conferences at the University of Ha'il (H-2023-385) evaluated the research protocol and granted ethical approval for the study titled "Awareness of importance of triaging in emergency department in Kingdom of Saudi Arabia". The participants have been provided with a clear understanding of the research objectives and, on an informed basis, voluntarily consented to participate in the study.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

- [1] Alrajhi KN, Aljerian NA, Alazaz RN, Araier LB, Alqahtani LS, Al-mushawwah SO. Effect of waiting time estimates on patients satisfaction in the emergency department in a tertiary care center. *Saudi Medical Journal*. 2020; 41: 883–886.
- [2] Alhaqbani R, Bahmaid R, Almutairi M, Almasoudi W, Elmasarwa A, Alshehri A. Patient's conception and attitude regarding triage system and waiting time at emergency department at Riyadh, Saudi Arabia. *Saudi Journal of Emergency Medicine*. 2022; 3: 130–137.
- [3] Almulhim N, Almulhim F, Al Gharash A, Alghannam Z, Al-ghamdi RS, Alghamdi MH, *et al.* Preference for visiting emergency department over primary health care center among population in Saudi Arabia. *Cureus*. 2021; 31: e20073.
- [4] Alhijli F, Mahmoud M, Alotabi Y, Alanazi S, Alghamdi A, Alrasheed M, *et al.* Knowledge and attitude towards emergency department utilization in Riyadh. *Journal of Family Medicine and Primary Care*. 2022; 11: 3021.
- [5] Calder-Sprackman S, Kwok ESH, Bradley R, Landreville J, Perry JJ, Calder LA. Availability of emergency department wait times information: a patient-centered needs assessment. *Emergency Medicine International*. 2021; 2021: 1–6.
- [6] Al-Otmy SS, Abduljabbar AZ, Al-Raddadi RM, Farahat F. Factors associated with non-urgent visits to the emergency department in a tertiary care centre, western Saudi Arabia: cross-sectional study. *BMJ Open*. 2020; 10: e035951.
- [7] Alnasser S, Alharbi M, AAlbrahim A, Aal Ibrahim A, Kentab O, Allassaf W, *et al.* Analysis of emergency department use by non-urgent patients and their visit characteristics at an academic center. *International Journal of General Medicine*. 2023; 16: 221–232.
- [8] Alhabdan N, Alhusain F, Alharbi A, Alsadhan M, Hakami M, Masuadi E. Exploring emergency department visits: factors influencing individuals' decisions, knowledge of triage systems and waiting times, and experiences during visits to a tertiary hospital in Saudi Arabia. *International Journal of Emergency Medicine*. 2019; 12: 35.
- [9] Alsulimani LK. Public awareness of triage in emergency departments in Saudi Arabia in the era of COVID-19. *Saudi Journal of Emergency Medicine*. 2022; 3: 120–129.

- [10] Kuređa G, Lisowska A. Knowledge and opinions of patients attending a hospital emergency. *Medical Science Pulse*. 2021; 14: 1–8.
- [11] Almass A, Aljohani HM, Alhaqbani RM, Alromih AM, Hadal S, Abozaid HS. Patient satisfaction with quality of care at the Kingdom of Saudi Arabia. *Cureus*. 2022; 14: e32102.
- [12] Seibert T, Veazey K, Leccese P, Druck J. What do Patients Want? Survey of patient desires for education in an urban university hospital. *Western Journal of Emergency Medicine*. 2014; 15: 764–769.
- [13] Grafstein E, Wilson D, Stenstrom R, Jones C, Tolson M, Poureslami I, *et al.* A regional survey to determine factors influencing patient choices in selecting a particular emergency department for care. *Academic Emergency Medicine*. 2013; 20: 63–70.
- [14] Uscher-Pines L, Pines J, Kellermann A, Gillen E, Mehrotra A. Deciding to visit the emergency department for nonurgent conditions: a systematic review of the literature. *The American Journal of Managed Care*. 2013; 19: 47.
- [15] Kheirbek RE, Beygi S, Zargoush M, Alemi F, Smith AW, Fletcher RD, *et al.* Causal analysis of emergency department delays. *Quality Management in Health Care*. 2015; 24: 162–166.

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