RESEARCH ARTICLE

A profile of emergency departments in Baghdad hospitals

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Abstract

Objective: To assess the structure as well as availability of essential equipment and medicine at emergency departments in Baghdad hospitals.

Method: The descriptive, cross-sectional study was conducted from March to June 2021 after approval from the ethics review committee pf the College of Medicine, Mustansiriyah University, Baghdad, Iraq, and comprised emergency departments of general and teaching hospitals in the city. Evaluations were done using the World Health Organisation checklist and the guidelines of the Australasian College for Emergency Medicine related to Emergency Department Design.

Results: Of the 26 secondary care hospitals in Baghdad, 13(50%) were evaluated. Triage was not available in 8(62%) hospitals, resuscitation room in 10(77%) and waiting room in all the 13(100%). An obvious shortage of medicines and vaccines was noted in 11(85%) hospitals. Coronary care unit and intensive care unit were not close to the emergency department in 7(54%) hospitals, and liaison psychiatry and social work links were not available in all 13(100%) hospitals.

Conclusion: There is a need to improve service delivery at emergency departments functioning at hospitals in Baghdad.

Key Words: Coronary Care, Emergency, World Health Organization, Social Work, Psychiatry, Vaccines

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Introduction

The high burden of trauma in low- and middle-income countries (LMICs) has accentuated the need for better emergency care to lessen the rate of mortality and morbidity, as these countries are not well prepared to evaluate and treat emergency conditions due to shortage in terms of planning, organisation, trained personnel and other resources. The emergency departments (EDs) play a significant public health role by providing access to emergency care and treatment to all patients regardless of their ability to pay. The coronavirus disease-2019 (COVID-19) pandemic impacted many aspects of the healthcare system, including emergency care [1, 2]

In Iraq, after decades of conflict and sanctions, the healthcare system is still struggling to recover. A considerable number of skilled healthcare workers (HCWs) and young graduates have immigrated to regional or Western countries. Despite the considerable rebuilding, the healthcare system and infrastructure are still found limping.

According to the annual report of the Iraqi Ministry of Health in 2020, there are 64 general hospitals in Iraq, and the total number of ED visits is 86,95,182, with 12,66,432 of them in Baghdad alone, there is an overall ED beds ratio of 1.3 for each 1,000 populations.[3,4]

In 2017, a study in Iraq showed that the ED of one hospital received a mean of 20,000 patients per month, translating to 700 patients per day. This could be due to many factors, including poor healthcare services, limited availability of equipment, shortage of HCWs, increasing rates of accidents, and increased burden of diseases. Besides, primary healthcare centres (PHCCs) usually shut down in the afternoons, leaving the people to access ED, and there is a perception among many that they may get more advanced care in EDs.[5]

The current study was planned to focus on the EDs with respect to structure, essential equipment and medicines, as well as the challenges the EDs face.

Materials and Methods

The descriptive, cross-sectional study was conducted from March to June 2021 after approval from the ethics review committee of the College of Medicine, Mustansiriyah University, Baghdad, Iraq, and comprised EDs of general and teaching hospitals in the city.

From among all the secondary hospitals in the city, the current sample was raised using a simple random

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sampling technique. The names of all hospitals were written on pieces of paper which were put in two small boxes; one for each side of Baghdad. The names were picked randomly from the boxes. Tertiary and paediatric hospitals were excluded for they have special departments functioning under different criteria.

Assessment of the EDs included their structure, functional units, availability of equipment, medicines and other essential facilities, as well the opinion of HCWs regarding professional capacity-building and problems they face in the EDs.

Evaluations were done using the World Health Organisation WHO) checklist 6 and the ED Design guidelines of the Australasian College for Emergency Medicine (ACEM-ED)7 which includes external functional units, internal functional units, ED facilities, important ED equipment, like durables, renewables and supplementary equipment.

A daylong work visit was allocated to each ED to fill the checklist, and in cases where this was not enough, the task was completed the next day. Data was collected from the physician heading the department, or, if not available, from the head nurse, who were assured that all information they provided would be kept confidential, and would only be used for research purposes.

Results

Of the 26 secondary care hospitals in Baghdad, 13(50%) were evaluated. In terms of internal functional units of EDs, reception was not available in 7(54%), triage in 8(62%), resuscitation room in 10(77%) and waiting room

Table-1: Internal functional units of the emergency departments (EDs) in the sampled hospitals.

Hospital	Reception area	Waiting room	Triage area	Resuscitation area	Lab. Services	Acute treat. area	Teaching room	Admin areas	Pharmacy	Xray	U\S	CT scan	Patient	Toilet for
Yarmouk	A		A		A	A	A	A	A	A	A	A	A	NA
Karkh	A		A	A	A	A	A	A	A	A	NA	NA	A	NA
Karama	NA	NA	NA	NA	A	A	A	A	A	A	A	A	A	NA
Abu Ghraib	NA	NA	A	NA	A	A	A	A	A	A	NA	NA	A	NA
Al Shaheed Mohammad Baqir	NA	NA	NA	NA	A	A	A	A	A	A	A	A	A	NA
Imamain Al Kadhimain	A	NA	NA	NA	A	A	A	A	A	A	A	A	A	A
Furat	NA	NA	NA	NA	A	A	A	A	A	A	A	NA	A	NA
Baghdad	NA	NA	A	A	A	A	A	A	A	A	A	A	A	NA
Al Numan	A	NA	NA	NA	A	A	A	A	A	A	A	NA	A	NA
Al Kindi	NA	NA	NA	NA	A	A	A	A	A	A	A	A	A	NA
Shaikh Zayed	A	NA	A	NA	A	A	A	A	A	A	A	A	A	NA
Shaheed Dhari Fayad	A	NA	NA	NA	A	A	A	A	A	A	A	NA	A	NA
Imam Ali	NA	NA	NA	A	A	A	A	A	A	A	A	NA	A	NA

A: Available, N\A: Not available, U/S: Ultrasound, CT: Computed tomography.

Table-2: Equipment: renewable items.

Hospital	NG tube	IV set	IV cannula	scalp vein infusion set	syringe.	Needles/ sutures	tourniquet room	Gloves/ gowns	Oropharyn airway	Splint arm/leg	Urinary catheter	Face mask	Soap
Yarmouk	A	A	A	NA	A	A	NA	A	NA	A	A	A	A
Karkh	A	A	A	NA	A	A	A	A	A	A	A	A	A
Karama	A	A	A	NA	A	A	NA	A	A	NA	A	A	A
Abu Ghraib	A	A	A	NA	A	A	NA	A	A	NA	A	A	A
Al Shaheed Mohamed Baqir	A	A	A	A	A	A	NA	A	A	NA	A	A	A
Imamain Kadhimain	A	A	A	A	A	A	NA	A	A	NA	A	A	A
Furat	A	A	A	NA	A	A	NA	A	A	NA	A	A	A
Baghdad	A	A	A	A	A	A	A	A	A	A	A	A	A
Al Numan	A	A	A	NA	A	A	A	A	A	A	A	A	A
Al Kindi	A	A	A	NA	A	A	A	A	A	A	A	A	A
Shaikh Zayed	A	A	A	NA	A	A	A	A	A	A	A	A	A
Shaheed Dhari Fayad	A	A	A	NA	A	A	NA	A	A	A	A	A	NA
Imam Ali	A	A	A	A	A	A	A	A	A	A	A	A	A

A: Available, N\A: Not available, NG: Nasogastric, IV: Intravenous.

Table-3: Availability of facilities..

Patient call facilities	Communication infrastructure	Alarm of fire	Bariatric requirements	Facilities for elderly	No. of Wheelchairs	No. of trollies	No. of beds
40	12	11	NA	NA	NA	NA	NA
25	5	7	NA	NA	A	A	NA
24	3	5	NA	NA	A	NA	NA
15	7	3	NA	NA	NA	A	NA
24	6	7	NA	NA	NA	NA	NA
23	10	5	NA	NA	NA	NA	NA
12	3	2	NA	NA	A	NA	NA
42	14	5	NA	NA	A	A	NA
24	10	10	NA	NA	NA	A	NA
40	50	30	NA	NA	NA	NA	NA
25	10	15	NA	NA	NA	A	NA
29	7	14	NA	NA	NA	A	NA
35	10	20	NA	NA	A	NA	NA

A: Available, N\A: Not available.

was not present in all the 13(100%) EDs. Also, toilets for doctors and nurses were not available in 12(92%) EDs (Table 1), and cylinders represented the oxygen source in all 13(100%) EDs. There were no practice guidelines in the 13(100%) EDs surveyed.

An obvious shortage of medicines and vaccines was noted in 11(85%) hospitals. The availability of renewable equipment was across the board except scalp vein, tourniquet and splint for arms and legs that were available at 6(46%) EDs (Table 2).

Sound control, patient call facilities, bariatric requirements, and facilities for the elderly were not available in all the 13(100%) hospitals, while communication infrastructure was available at 7(54%) and fire alarm in 8(62%) of the hospitals (Table 3).

With respect to the supplementary equipment, Magill forceps, intravenous (IV) infuser bag and crico-thyroidotomy set were not available in 12(92%) of the hospitals. Liaison psychiatry and social work links were unavailable in all the 13(100%) EDs. About two thirds of the interviewed medical personnel (18, 66%) and (10, 44%) of the nursing staff reported having no training since the last two years.

Coronary care units (CCUs) and intensive care units (ICUs) were not close to the ED in 7(54%) hospitals. The route to the wards was clear and unencumbered in 6(46%) hospitals. Although not tabulated, the main problem reported by the medical (22, 79%) and nursing staff (13, 48%) was work overload, especially with cold cases due mainly to inactivation of the referral system.

Discussion

Conflicts on after another in Iraq since 1980 have caused an adverse effect on the whole healthcare system, reducing significantly the quality of healthcare, including EDs, for the Iraqi population.[8] The current study revealed that there were serious defects in the EDs of most of the surveyed hospitals, as reception, triage and resuscitation room were unavailable in most EDs. A study revealed that a well-functioning trauma unit in EDs was significantly vital to provide better management to the severely injured or critically ill. Lacking efficient services, especially those related to triage, can lead to a serious delay in care, leading to poor outcomes. Likewise, resuscitation room was reported to be the most vital area where most seriously ill or injured patients were going to be managed with life-saving interventions.[9]

Way-finding processes that help patients to find their way from one place to another in a new and often complex environment, was unavailable in all the hospitals evaluated in the current study. This may result in increased anxiety and confusion, and lead to dissatisfaction with one's overall hospital experience.[10]

Regarding renewable equipment, current results showed that all the items were available at all EDs, except scalp vein, tourniquet and splint for arms and legs that were available only in half the hospitals. Scalp vein is important in an ED, as IV catheterisation can be a life-saving procedure required for the administration of drugs and/or fluids. It offers a safe and reliable alternative site to create peripheral IV access.[11] The availability and optimal utilisation of such equipment contributes to the improvement of the quality of health services.[12] The results revealed that, in the surveyed hospitals, when cannulation tourniquet was unavailable, the nurses either asked the patients to buy it, or they used a disposable IV infusion set instead.

Only one hospital reported that they had practice guidelines; however, when it was asked for perusal, it was not available. This is in line with a previous study in Iraq showing that no protocols for management and running an ED were found.[5] The results demonstrated that infection control standards were not available. Hand hygiene is essential to decrease the transmission of communicable diseases to both patients and HCWs.

Blood gas machine and infusion pumps were not available in some of the hospitals, even though arterial blood gas monitoring is essential. Infusion pumps provide more advantages than manual fluid administration. The National Academy of Medicine recommended that all hospitals should have infusion pumps readily available for the provision of emergency care.[13]

Sound control was unavailable in all hospitals. Noise can be a serious problem in EDs, compromising the quality of healthcare delivery to critical cases.[14]

The current study found that bariatric requirements, and facilities for the elderly were unavailable in any of the hospitals evaluated. Patients with obesity and chronic diseases visiting healthcare settings are at a higher risk for injuries due to inadequate facility design, equipment, and staff competencies.

Fire alarm I was unavailable in half the hospitals. Suppression equipment should be always ready and accessible to control these fires. Besides, staff members need to have knowledge of how to use this equipment and to avoid panic.[15]

CCUs and ICUs were not close to the ED, and the route to the wards was not clear in half of the hospitals. ED should have rapid access to every area and also be in close proximity to other vital services to minimise delay in patient treatment.[16]

The results also showed that liaison psychiatry and social work links were not present in all the surveyed hospitals. Liaison psychiatry provides mental healthcare in a physical healthcare setting, enabling EDs and wards to assess and manage mental health problems.[17] Social services can also serve as an effective support to those who are labelled as "frequent users of the ED".[18]

The main problem reported by medical and nursing staff was work overload, especially with cold cases. One of the important reasons for non-urgent visits is seeking swift (36.6%) and relatively less costly healthcare (35.9%). Non-urgent visits increase during night shifts, with patients suffering from symptoms that last many days. Crowding status of EDs is a usual problem in healthcare globally.[19]

Limitation: The current study has limitations as only 50% of the secondary hospitals in Baghdad could be included owing to time constraints.

Conclusion

There is a need to improve service delivery at EDs functioning at hospitals in Baghdad. Sincere efforts are needed to improve the standards of EDs, and to promote public awareness on how to use ED services appropriately, and not as a primary source of care.

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